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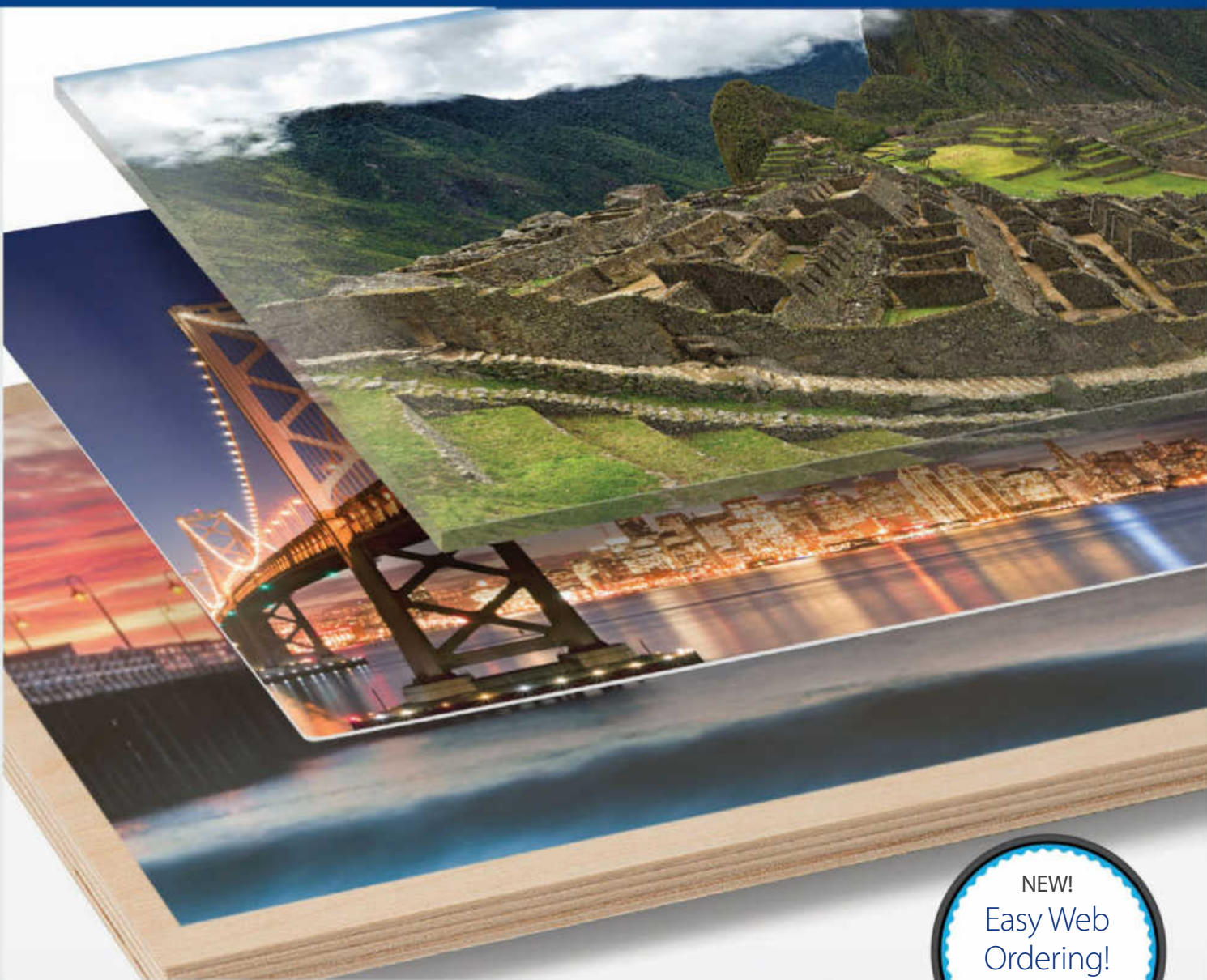
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Photo © 2015 Jonathan Irish | FUJIFILM X-T1 Camera and XF50-140mm F2.8 R LM OIS WR Lens, at 1/1600sec at F8, ISO 400.

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- Jonathan Irish



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Learn About New Products: Exciting new products featured in OP's In Focus section appear earlier on the website. In addition, you'll see the latest news releases from many different photo companies right away.

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Photographer: Michael Frye

Location: Tunnel View, Yosemite National Park, California

Equipment: Canon EOS-1DS Mark II, Canon EF 17-40mm f/4L USM, Gitzo tripod, 1/8 sec. at f/16, ISO 100

Situation: I've spent countless hours waiting and shivering at Tunnel View, hoping for the sun to break through and provide the perfect illumination for a classic Yosemite clearing storm photograph, but it's rare for all the elements to come together just right.

On this afternoon, I drove up to Yosemite Valley (only an hour from my house), as online satellite images showed that a spring storm might clear before sunset, but arriving at Tunnel View, I found completely overcast skies. I had some hope, however, because it was windy, and I knew the clouds could be blown away quickly. After an hour or so, a few faint spots of sunlight appeared. Then a bright beam of light started crawling up the Merced River canyon to my left. It seemed to move at a glacial pace, but slowly, with my urging, the light edged closer to Bridalveil Fall. It finally got there, creating a dramatic moment, with a diagonal beam of light slicing through the frame to spotlight the waterfall. Sometimes patience is rewarded.

—Michael Frye

As part of our Ansel Adams special issue, Michael Frye shows us how to apply Ansel's guiding principle to photography in the digital age in his feature "The Power Of Visualization" (page 34).



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The edge of Loch Achtriochtan is a wonderful place to nestle beneath the towering mountains of Glen Coe. The light was changing rapidly with an imminent storm at the head of the Glen providing an amazing theatre of light that danced up and down the valley walls as clouds swirled overhead. Having spent many times photographing in this valley I knew these conditions could reward as long as I had chosen my camera position and was ready. I knew that the distant clouds when lit by the direct sun could be too bright and I also needed the shafts of light illuminating the mountain flanks to sparkle in the finished image. I fitted a LEE 0.3 soft ND grad which I knew would 'calm' the highlights in the clouds and also a LEE No 8 Yellow which would lift the contrast in the sunlit areas. As the storm set-in soon after I returned to my cottage and lit the fire knowing I had got just the image I wanted. Bliss!

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Courtesy of U.S. National Archives

Among the great landscape photographers, **Ansel Adams** is perhaps the most widely recognized, but what you may not know about Adams is that he was, in the early 1940s, employed by the U.S. Department of the Interior as a “Photographic Muralist,” commissioned to capture images of the country’s national parks and indigenous peoples. The intent was to display the images in the Department’s Washington, D.C. headquarters. Adams delivered more than 200 prints, but as America’s entry into World War II became the national focus, his assignment was ended and the prints sat largely forgotten for nearly 70 years, until in 2010, when then-Secretary of the Interior Kenneth Salazar commissioned mural prints to be made for display, finally bringing completion to the project. In his feature “Ansel’s Public Works,” **William Sawalich** shares this fascinating story, which culminates in the appointment of Dominic Byrd-McDevitt by the National Archives and Records Administration to digitize the collection and make them publicly available. You can find a link to the complete archive, along with contemporaneous communications between Adams and the Department of the Interior, on our website, outdoorphotographer.com/ansels-public-works.

Adams is closely associated with the Yosemite Valley. “Yosemite Valley, to me,” Adams poetically stated, “is always a sunrise, a glitter of green and golden wonder in a vast edifice of stone and space.” Few photographers working today know Yosemite as intimately as **Michael Frye**, who has lived either in or near the park for more than 30 years, and has authored numerous books and articles featuring his own photography of the area. In “The Power Of Visualization” Frye illustrates one of Ansel Adams’ guiding creative concepts and describes how to apply the technical and creative aspects of previsualization in the digital age to arrive at photographs that successfully evoke the mood we’re trying to capture and convey in each image.

Expanding on this idea of concept-before-capture, **Ian Plant**

offers his five top ways to create more meaningful images in his article “Sharpen Your Vision.” Plant, too, refers to Ansel Adams, who wrote: “There is nothing worse than a sharp image of a fuzzy concept.” One path to more meaningful images that Plant suggests is to begin with a narrative. “Everyone—and everything—has a story to tell,” he explains, “and it’s the photographer’s job to figure out what that story is and to present it to others in a compelling way.”

Compelling storytelling is the heart of conservation photography, and we’re excited to introduce a new column by **Amy Gulick**, a founding Fellow of the International League of Conservation Photographers and a frequent contributor to this publication. “The Big Picture” will showcase the work of photographers around the world who are using their images to help educate and inspire positive action. In her first column, Gulick shares the work of award-winning wildlife photojournalist **Steve Winter**, who’s especially well-known for documenting the lives of big cats and the important roles they play in ecosystems around the world.

This issue also features a trip to Nepal following last spring’s devastating earthquake that displaced hundreds of thousands of people and decimated the country’s tourism. Nearly a year later, the resilient people of Nepal are still struggling to reignite their economy. **Mark Edward Harris** journeyed to Nepal and experienced first-hand the majestic natural beauty and vibrant local culture, as well as the challenges currently facing those who live and work in the area. His guide, Maya Sherpa, reveals that while there has been significant investment in rebuilding the tourism and hospitality infrastructure, demand is down some 60% in the aftermath of the quake. “A lot of the negative news isn’t true,” Maya tells Harris. “Trekking in the Himalayas as you’re experiencing is very safe, and we Nepalis are waiting to welcome visitors.” If you’ve been considering your own Himalayan adventure, now is a time when your patronage could have an especially supportive effect.

—Wes Pitts, Editorial Director

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First Place "Ferns In The Rain" By Susan Ramdin

I went to Canaan Valley in West Virginia on a workshop with the Cuyahoga Valley Photographic Society in October 2014 to photograph the fall colors in various locations. On the day this was taken, it was nonstop rain, so it was a real challenge. The plus was that the rain really saturated the colors of the beautiful landscape. I had never seen so many ferns this orange! This image was taken along the banks of the Blackwater River. Canon EOS 5D Mark II, Canon EF 24-105mm f/4L IS USM, 1/25 sec., f/16, ISO 250, Manfrotto tripod and 498RC2 ballhead

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Second Place “Sierra Sunrise” By Thomas Piekunka

North of the Alabama Hills near Lone Pine, California, is an area called Moffett Ranch, which has a beautiful variety of grasses, chaparral and trees. The area is easy to access from Moffett Ranch Road off Highway 395 or if you follow the main dirt road north out of the Alabama Hills. Observing the layers and colors of the grasses and shrubbery, I pulled off to the side of the dirt road and explored, finding this composition. The transition from grasses to trees to the jagged mountains in the background and finally the soft pink clouds in the sky just made for a serene image that I thought captured the delicate beauty of the scene.

Canon EOS 5D Mark III, Canon EF 24-105mm *f*/4L IS USM at 24mm, 8 sec., *f*/16, ISO 400, Gitzo tripod, Kirk Enterprises BH-1 ballhead



Third Place “Up Is Down” By Emmanuel Verzura

I found this impressive lake, Lago di Carezza, in the Dolomites of northeastern Italy, a UNESCO World Heritage site. The lake reflected a great mountain in the intense blue-green-colored water—it was just incredible! I had to wait there four days to have good weather conditions, meeting outstanding photographers even during the night, trying to catch the moon’s reflection and the Milky Way. A magic moment!

Canon EOS 5D Mark II, Canon EF 17-40mm *f*/4L USM, five-exposure composite



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NEW NIKON FLAGSHIPS ▶

The wait is over for flagship-model updates from **Nikon**, with the introduction of the FX-format **D5** and the DX-format **D500**. These two DSLRs have a lot in common, including a new autofocus system, 180K RGB Metering, EXPEED 5 processors that enable 4K UHD video capture and compatibility with Nikon's first radio-controlled **Speedlight**, the **SB-5000**, introduced alongside the new cameras.

One of the most remarkable features of the D5 is its ISO range of 100 to 102,400, which can be expanded to an incredible 3,280,000. Nikon describes this setting as "near-night vision capability that's well beyond the visibility of the human eye." Nikon also states that the sweet spot range for sports and wildlife photographers, 3200 to 12800, will deliver "unprecedented image quality." While the D500 doesn't quite match the D5's extreme ISO range, it's still remarkable with a max ISO of 1,640,000.

The new AF system has 153 AF points, 99 of which are cross-type sensors. All AF points can be employed for Continuous AF focus tracking, and 15 of those AF points function at

apertures as small as $f/8$, "further aiding those who require extreme telephoto capabilities, including wildlife photographers." The AF system is also designed to perform well in dark conditions, "as little as EV -4 illumination."

The D5 and the D500 also feature new Nikon-developed sensors: a 20.8-megapixel FX-format sensor in the D5 and a 20.9-megapixel DX-format sensor in the D500. Both cameras are also exceptionally fast. The D5 offers continuous shooting at up to 12 fps with active autofocus and exposure, or an even faster 14 fps with focus and exposure preset and the mirror locked up. An "extended buffer" can accommodate bursts of up to 200 14-bit images, even in NEF+JPG capture mode. The D500 is capable of capturing 14-bit, uncompressed NEF images at 10 fps in continuous bursts of up to 79 images.

The D5 is available in two versions, one with dual CF card slots and one with dual XQD card slots to take full advantage of the camera's 4K video and high-speed shooting. The D500 offers one XQD and one SD slot.

The radio-controlled SB-5000 Speedlight can control up to 18 Speedlights in 6 groups, with a range of about 98 feet. Compatibility with the new radio-controlled system, dubbed "Advanced Wireless Lighting," is built in to both the D5 and the D500.

The new cameras will be available in March. List price for the D5 is \$6,499 (body only). The D500 is offered at a body-only price of \$1,999, or with the DX NIKKOR 16-80mm $f/2.8-4E$ ED VR zoom included for \$3,069. The SB-5000 Speedlight, also available in March, has a list price of \$599.

Contact: Nikon, nikonusa.com.

SONY SLT-a68 ▶

Slated to ship to the U.S. and Canada this April, the **Sony SLT-a68** is built around a new 24-megapixel APS-C-sized sensor and is compatible with A-mount lenses. Trickle-down features from the a77 II and Sony a7-series cameras include 79 AF points with 15 cross-type sensors and a dedicated $f/2.8$ AF sensor for focusing in low light, along with 10 customizable buttons. Advanced video features such as clean HDMI out add value to this affordable camera. List Price: \$600 (body only); \$700 (with 18-55mm kit lens). **Contact:** Sony, store.sony.com.



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▶ PHASE ONE CAPTURE ONE PRO 9

Known for its excellent RAW conversion, image-editing and tethering capabilities, **Capture One Pro** from **Phase One** offers a number of updates in version 9, such as a new processing engine, a variety of additional image-editing tools and improved DNG handling. Thanks to features such as Keyword Libraries, asset management is more efficient than ever before. A battery status tool has been added, as well. List Price: \$299 (full); \$99 (upgrade); \$15/month (with 12-month plan). **Contact:** Phase One, phaseone.com.



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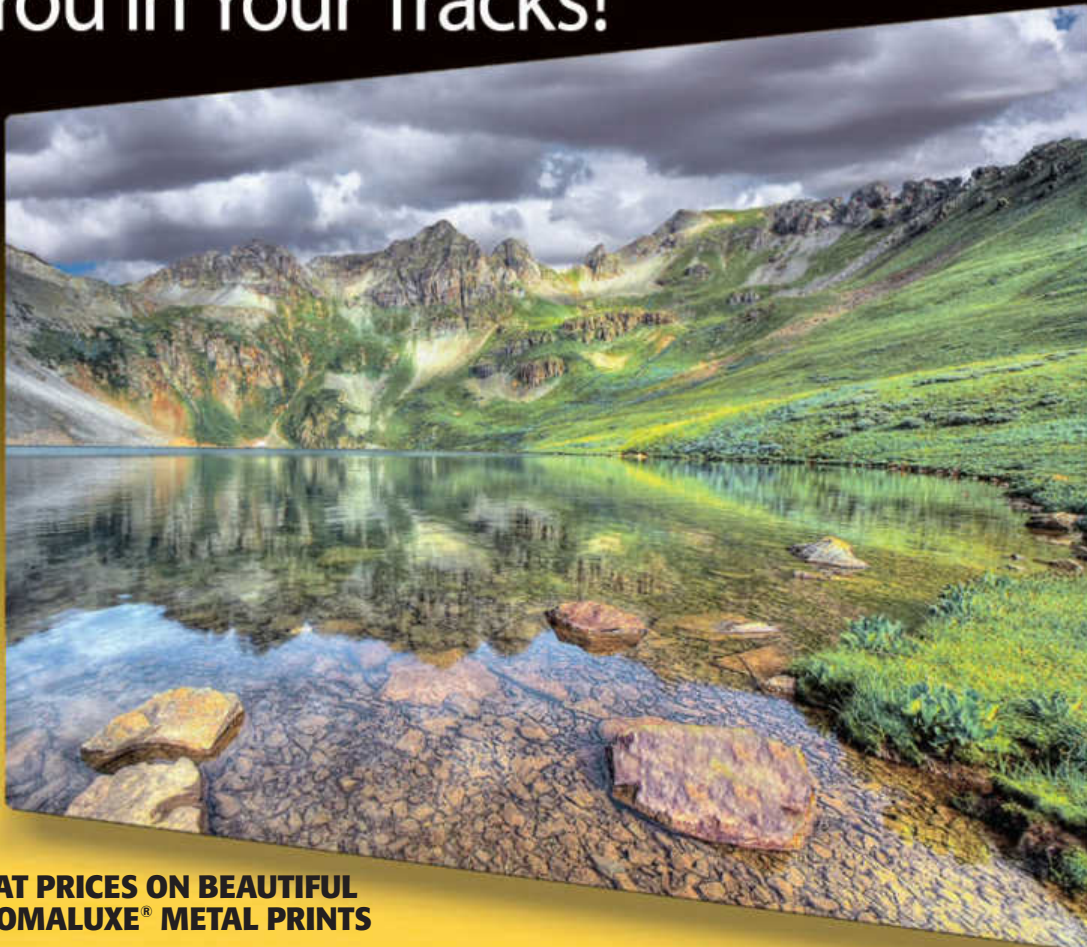
Lens filters just got tougher, and that's good news for outdoor photographers. The clear glass **WR Ceramic Protector Filter** from **Sigma** is shock- and scratch-resistant, with a water-repellent (WR) coating that repels water, dust and oil. The coating also makes it easier to clean stray fingerprints and smudges. Although thinner and lighter than other Sigma filters, Sigma's clear glass ceramic material is 10 times stronger than conventional filters and three times stronger than those that are chemically strengthened. The filters are available for lenses with front filter threads ranging from 67mm-105mm in diameter. List Price: \$93-\$315. **Contact:** Sigma, sigmaphoto.com.



◀ LEICA M (TYP 262)

Streamlined to focus on still images, the 24-megapixel **Leica M (Typ 262)** ditches Live View and video capture, but that's not necessarily a bad thing, especially since it pares down the price. At \$5,195, it's the least expensive Leica M model in the line. Minor design changes add a dedicated white balance button, shave off about 3.5 ounces, and provide quieter operation of the shutter and shutter cock mechanism. List Price: \$5,195. **Contact:** Leica, leica-camera.com.

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Aspen Photo Art by Larry Bennett Clear Lake Colorado sets above timberline, about 13,000 ft. close to the old mining town of Silverton. This image is a 7 exposure HDR, shot early morning, Summer of 2012, with 24-70mm zoom on a Canon 7D.

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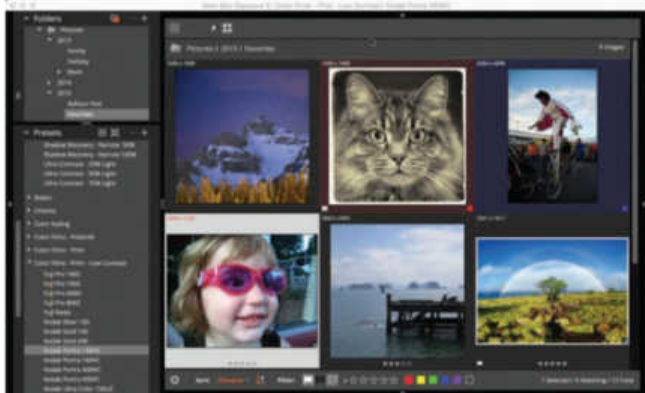
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To the delight of Pentax 645D and 645Z owners, **Ricoh** has been growing its Pentax medium-format lens line. The latest model, the wide-angle **HD Pentax-D FA645 35mm F3.5 AL [IF]** lens delivers a 35mm-equivalent focal length of 27.5mm when mounted on a Pentax 645D or 645Z, and is the widest Pentax 645 prime in the current lineup. The lens provides a minimum focusing distance of 0.3 meters and up to 0.25x magnification. Combining newly developed optical elements and Pentax's HD coating, the lens is designed to deliver excellent image quality, with special appeal for landscape photographers. List Price: \$1,600. **Contact:** Ricoh Imaging, us.ricoh-imaging.com.



ALIEN SKIN EXPOSURE X ▲

Alien Skin has added a number of new features to its popular film emulation and editing software. **Exposure X** now offers digital asset management tools in the standalone version for convenient access to and organization of images. Both standalone and plug-in versions provide improvements such as a brush tool for applying selective adjustments, the ability to stack effects and a customizable workspace. This cross-platform application requires OS X 10.10 Yosemite or newer for Mac and Windows 8 (64-bit) or newer for PCs, and for plug-in use, Adobe Photoshop CS6 or CC 2015 or newer and Lightroom 6 or Lightroom CC 2015 or newer. List Price: from \$99 (upgrade). **Contact:** Alien Skin, alienskin.com/exposure.



PNY PRO ELITE MEMORY CARDS ▲

Keeping pace with digital imaging's increased speed and capacity requirements, particularly for capturing HD and 4K UHD video, **PNY's** latest **PRO Elite line of SD and microSD cards** are U3-rated, with read speeds of up to 95 MB/s and write speeds of up to 90 MB/s. Available in 32 GB and 64 GB capacities (128 GB is coming soon), these SDHC/SDXC and microSDHC/SDXC memory cards can withstand extreme temperatures. They're shock-, magnet-, X-ray- and waterproof, and backed by a limited lifetime warranty. List Price: From \$30. **Contact:** PNY, pny.com.



3POD TRIPODS, MONOPODS, BALLHEADS & VIDEO HEADS ▲

3Pod launched a new line of support system gear that's functional and affordably priced. Among the collection of tripods, monopods, ballheads and video heads are 3- and 4-section tripods. Available in aluminum or carbon fiber for lightweight travel, the tripod features include quick-adjustment flip locks, padded grip, retractable foot spikes and a bubble level, plus the Orbit Overhead Shot System, with a center column that can be tilted or flipped horizontally for overhead or low-angle shots. Visit the Adorama website for more information about other 3Pod products. List Price: From \$200 (3-section tripod). **Contact:** Adorama, adorama.com.

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SEALIFE MICRO 2.0 UNDERWATER CAMERA ▶

Maintenance-free, the 16-megapixel **SeaLife Micro 2.0** underwater camera is permanently sealed, eliminating the need for O-rings. Built around 32 GB or 64 GB of internal memory, the Micro 2.0 is depth-rated to 200 feet and is equipped with a fisheye lens that provides a 130° field of view and focuses as close as 12 inches. An optional 10x close-up lens is available for macro shots. This compact, WiFi-equipped camera features three large keys for easy access to controls, plus free iOS and Android apps for remote viewing and sharing. Full kits are available with trays and lights. List Price: From \$500. **Contact:** SeaLife, sealife-cameras.com.



SIRUI MYSTORY PHOTO SHOULDER BAGS ▶

Constructed from water-resistant canvas with leather accents and antique silver finished hardware, the **Sirui MyStory** shoulder bags from **Argraph** are designed to look good and hold enough gear to get you through the day. In addition to an expandable flap top and removable insert, the MyStory bags come with a tripod holder/water bottle pouch and include a raincover for protection from the elements. Available in a range of sizes, the bags are designed to accommodate a variety of kits—from small mirrorless camera systems to full-frame DSLRs, lenses and laptops/tablets. List Price: From \$170. **Contact:** Argraph, argraph.com.



MANFROTTO DIGITAL DIRECTOR APP UPDATE ▼

Manfrotto's iPad app has been updated to version 2.0, with a host of new features for working with the company's Digital Director, an electronic device that connects your camera and iPad via USB cable. In addition to controlling all Nikon and Canon DSLR key camera functions, the app now provides remote control of Manfrotto LYKOS and Litepanels ASTRA LED lights, and adds focus peaking, a zebra filter and expanded postproduction tools. Free update. **Contact:** Manfrotto, manfrotto.us.



BOSSTRAP ▶

BosStrap has added a quick-release buckle to its already convenient **Sliding Sling Camera Strap**. At its core, this cross-body strap offers a number of benefits, including the strap-to-lug attachment (as opposed to attaching the strap to the tripod mount). As its name implies, the new quick-release buckle allows users to easily detach the camera from the strap with one hand. The straps are available for DSLRs and mirrorless cameras. BosStrap offers conversion kits to add quick-release buckles to earlier model straps. List Price: \$54 (DSLR); \$53 (mirrorless); \$20 (conversion kit). **Contact:** BosStrap, BosStrap.com.

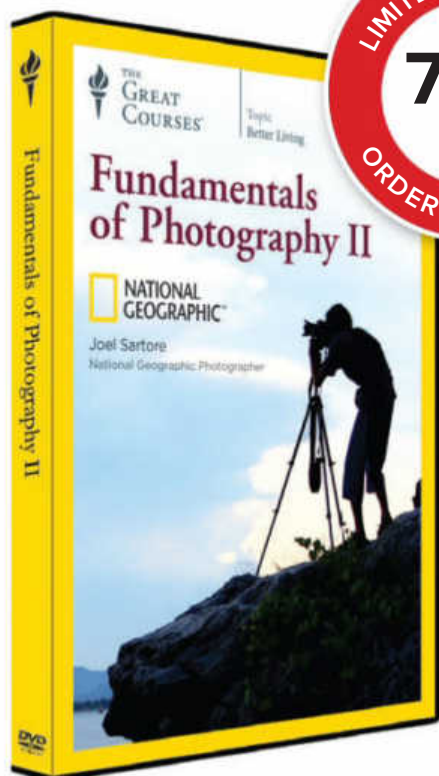




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Background Check: Spring Cleanup

Techniques for clear concepts in your compositions

By George D. Lepp and Kathryn Vincent Lepp



Lupine and Goldfields. In these two examples, Lepp used a longer lens (the Canon EF 180mm Macro) to photograph wildflowers at different *f*-stops. At *f*/5.6, 1/1000 sec., and ISO 200 (above, left), the subject is isolated from the out-of-focus background and foreground, while the faster shutter speed facilitated handheld capture and mitigated windy conditions. At *f*/16, 1/125 sec., and ISO 200 (above, right), background detail overpowers the subject.

Background checks for photographers, really? No, this isn't about putting you on the "no shoot" list, or keeping you from buying a really long lens or a high-capacity CF card, or registering your drone. It's about cleaning up your composition—not just from left to right and top to bottom, but from front to back—to make sure that every element in the image supports, and doesn't detract from, your photographic message. Fields of spring wildflowers offer abundant opportunities to practice and perfect these compositional techniques.

As we write this, we're looking out the office window at fields of snowflakes. But by the time you read this column, the desert in the southwestern United States will, we hope, be bursting with

blooms inspired by this year's El Niño event. Photographers will flock to the meadows and many, many flower images will be captured. And, of those, a vast number will have terrible backgrounds. The fact is, the vast majority of wildflower images that we see are completely discredited by their bad backgrounds. Most are just too busy, some have intrusions into the frame that confuse the composition, and others contain competing subjects that subvert the message, if there is one.

Fields of flowers in bloom are really exciting! Worthy subjects are all around us, everything is beautiful, and it almost seems too easy. But photographers often concentrate so much on their chosen subject that they don't properly consider what's behind it. In my workshops, I advise participants to

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Featured Photo By Chris Burkard

tech tips

look into the viewfinder or LCD as if they were critiquing a finished image. Consider the overall composition, and at the same time, check for debris, dead foliage or other distractions poking in from the edges. Watch for bright spots of light or color in the background that draw the eye away from the center of interest. Once you have a clear concept of the composition you seek, some simple (and, okay, some not-so-simple) techniques can help you achieve it.

Minimize Depth of Field

A beautiful way to separate the flower from the field is to capture the subject sharply, while throwing everything around it out of focus. This technique yields an image with a clearly identifiable floral subject against a wash of soft color. One simple way to do this is to identify a subject that's somewhat separated by distance from the background. A low angle of approach might eliminate foliage backgrounds altogether by placing the subject against a beautiful blue sky.

A lens of greater focal length—135mm or more—will help to achieve this effect. I like working with my 180mm macro lens because it focuses close and blurs the background when used close to wide open. A 70-200mm zoom telephoto can be an excellent wildflower lens, especially at 200mm. You may have to add an extension tube if the focus of the lens isn't as close as you'd like and you can't get back from your subject. I've been known to use my 100-400mm zoom telephoto at 400mm with an extension tube to really throw the background out. The new Canon EF 100-400mm MK II focuses to 3.2 feet, so it will be my go-to lens for this coming spring's flower-field photography.

The telephoto lens doesn't have to be a fast version, such as an $f/2.8$, to be effective. An aperture of $f/4$ or even $f/5.6$ will minimize depth of field at a telephoto focal length. You might want a fair amount of the blossom(s) to be in focus while still throwing everything else out. A longer focal length, such as 400mm, will keep the flower sharp at $f/8$ and still render the background soft. An advantage of the wide aperture is that it enables a fast shutter speed, which facilitates handheld techniques when working in awkward low-level positions.

Another technique to soften the background and sharpen the subject is selective focus-stacking. Here, you'll need to use a tripod and telephoto at a maximum wide aperture like $f/2.8$ or $f/4$ to minimize the depth of field. Frame the image, then capture a series of exposures without changing the composition, moving the in-focus area of each capture from front to back of the subject flower in small "slices" of sharpness. Don't move the area of focus into the background; because of the wide aperture and longer focal length, the background stays out of focus in each focus-stacked image. Composite the captures later in software such as Zerene Stacker or Helicon Focus to create a beautifully sharp image of the complete flower in soft, out-of-focus surroundings. If you had captured the whole flower in a single image stopped down to, say, $f/11$, you could achieve a similar, but far less precise effect; without absolute focus control, the background would become defined and distracting.

Gardening is Allowed— Within Limits

Some nature photographers believe that everything must be photographed exactly as it exists, without any adjustment or intervention from the photographer, either before or after capture. I believe that, at least in the case of a field of wildflowers being photographed for creative as opposed to scientific purposes, neither harm nor misrepresentation is caused by removing or relocating minor distracting elements such as dried sticks or perhaps a small light-colored rock that shows up as a bright spot, as long as we leave the area intact and without noticeable alteration. The Mini-Leatherman knife I carry in my pocket has small scissors that I occasionally use to clip out a couple of dried-up flowers that aren't necessary for the composition. Adjacent plants can be gently bent to the side without damaging them to include them or remove them from the frame.

Remember that it may be possible to improve the background with a simple adjustment of the camera's position. Work the edges of a group of flowers instead of flopping down in the middle of them and making a nest of smashed

(Cont'd on page 74)

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Letting Science Direct My Camera

Working with botanists documenting the flora of Arizona's West Clear Creek Wilderness

[By Bill Hatcher]



Botanist Wendy McBride collecting plant samples in the remote West Clear Creek Wilderness in southern Arizona.

When I'm out photographing, I have my own particular way of seeing the world and let my preferences for lighting, composition and subject matter form my photographic style. In other words, I choose where I want to shoot and then look for beautiful light and compositions that catch my eye to photograph.

That's a simple way of explaining the approach to most of my photo projects. When I'm out on a magazine or commercial assignment, however, there's a different focus for my photography, as I attempt to fulfill the needs of the story

and the client. And, every so often, a situation comes along where I actually try to photograph the world as if I'm seeing through the eyes of those with whom I'm traveling.

I've always used this technique when photographing a range of adventure sports, but that's simply because I was a participant in those very same sports. When that adventure is a means to document science, however, and science is the main focus, I find the recipe to making a good photo is to listen, watch, follow and learn to see the world like the scientist. What's important to

them when they look at a landscape, in turn, becomes an important subject in my images. Perhaps the biggest challenge is connecting to a science world I may know very little about.

That was the case when I joined a team of botanists on a self-supported, multiday plant collection survey in the flood channel of a remote canyon. The trip involved a week of hiking, boulder-hopping and swimming through the green wilderness of West Clear Creek in Arizona. In the canyon, I discovered a lush landscape you wouldn't typically associate with arid

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Arizona. My hiking partners weren't typical, either; they were a committed team of botanists who were participating in an intensive plant collection through the heart of the canyon's understudied rugged riparian area.

The team leader was Wendy McBride, an adventurous 30-year-old grad student in her first year of a two-year project to record all the vascular flora in the 15,238 acres of West Clear Creek Wilderness. The study is toward completion of her MS at Northern Arizona University in Flagstaff. Prior to our adventure, Wendy had made a dozen trips collecting plants in various sections of the canyon. This was her first thorough hike of the main canyon.

I hadn't explored this particular canyon before, but I had been told that to walk the entire canyon in one push is a pretty fair accomplishment. This outing is what I would call a multisport adventure: Besides the 25 miles of wilderness hiking, there are many swims, including several mandatory canyon swims that are hundreds of feet long. Given my natural aversion to swimming in any water, much less through deep pools in trackless wilderness, I rank this hike as "no walk in the park."

For a nature and adventure photographer, the West Clear Creek is stunning, but seeing this place through the eyes of serious plant people, I discovered a remarkable new world I would have missed otherwise. My cadre of professional botanists helped me identify important plant community characteristics that I then would try to weave into my photos. I could barely pronounce the names of plants that those around me would shout out to alert their mates about new discoveries. I couldn't remember the specific names, but as I walked, climbed and even crawled down the canyon, I learned with every slow, watchful step about plants and why they grew where they did.

There's the lush green riparian corridor of the main canyon and side canyons, the Montane Conifer Forest beginning just above the high-water line, replaced at lower elevations by Pinyon-Juniper Woodlands, and eventually at the lowest elevations, semiarid grasslands. I learned to watch for changes in plant life as we walked from north to south, sun aspects that allowed subalpine plant species to grow a stone's throw from

(Cont'd on page 65)

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Quest For Cats

Steve Winter and the positive power of photography

[By Amy Gulick | Photography By Steve Winter]



As a child growing up in the '60s, Steve Winter traveled the world through the pictures in *National Geographic*, but it wasn't the photos of lions and tigers that intrigued him.

"I wanted to walk those dusty streets in exotic places and meet the people in the pictures," says Winter. "Looking at an image of an elephant, I thought the guy on the animal, the *mahout*, was cool."

So how did this people-centric boy growing up among cows and corn

in Indiana come to be the world's foremost "big cat guy" shooting for *National Geographic*?

Working as a New York photo-journalist for the likes of *TIME* and *Newsweek*, Winter was hired by a pharmaceutical company in 1990 to photograph its scientists at work in the jungles of Costa Rica. Interacting with passionate researchers in a wild environment changed his life and charted a course for pursuing natural history stories. His first assignment for *National Geographic* featured quetzals, spectac-

ular birds of Central America's cloud forests. During months in a blind in Guatemala waiting for glimpses of the birds, he caught sight of a jaguar's tail draped from a tree, then watched wide-eyed as the cat crashed through the forest. And, late one night, he lay frozen in bed as the stairs of his hut creaked and something scratched at his flimsy door.

"The hairs on the back of my neck stood up when I saw the jaguar's pug-marks by my shoes in the morning," Winter recalls.

So began his quest for cats. Working



LEFT: Tigers in Bandhavgarh National Park, India. With proper protection and enough prey, tigers breed easily. This four-year-old tigress returned to the cave where she was born to have her first litter. **ABOVE:** A camera trap photographs P22, a radio-collared cougar, strolling down a path in Griffith Park, home to the world-famous Hollywood sign. This cougar is studied and monitored by biologists from the National Park Service's Santa Monica Mountains National Recreation Area. The cat's ability to remain invisible in such a highly populated area speaks to the stealthy nature of the species.

on a snow leopard story at 15,000 feet in the Himalaya mountains, he found himself sweating with fear despite sub-zero temperatures, not fear of the cats he sought, but of not getting photographs of an animal that's near impossible to see. Camera traps—remote cameras triggered by movement—were essential. For most wildlife photographers, observing animals is part of the thrill, but Winter almost never sees his subjects. The titles of his stories speak to the elusiveness of the cats he seeks: “Out of the Shadows,” “Ghost Cats” and “Phantom of the Forest.”

“I have to visualize the images in my head and have the patience to believe I’m going to get the shots,” he says. “I call it ‘Zen and the art of camera trapping.’ But 99% of the time, I see nothing when reviewing images. It’s maddening.”

Getting the shots is a long shot, despite his meticulous preparation, but the payoff is big. A snow leopard image earned him the prestigious Wildlife Photographer of the Year title from the Natural History Museum of London, and a series of tiger images won Wildlife Photojournalist of

the Year in the same competition, as well as Conservation Photographer of the Year in the Por el Planeta contest. His list of honors is long, but for Winter, it’s not about winning awards.

“I 100% believe in the power of photography to change the world,” he says. “My goal is to reach people with my images and move them to take meaningful action.”

His pictures have called attention to the plight of wild cats—poaching, shrinking habitat and the Chinese medicine trade. His book, *Tigers Forever* (National Geographic, 2013), is a masterful compilation of inspiring wildlife and photojournalism pictures, which weaves a hopeful story of the dedicated researchers and rangers racing to save this endangered species.

“If we save big cats, we save ourselves,” he says, noting that most of the world’s wild felines live in forests that provide fresh water, food and oxygen for people.

Perhaps no image has done more to call attention to big cats than Winter’s picture of a California mountain lion with

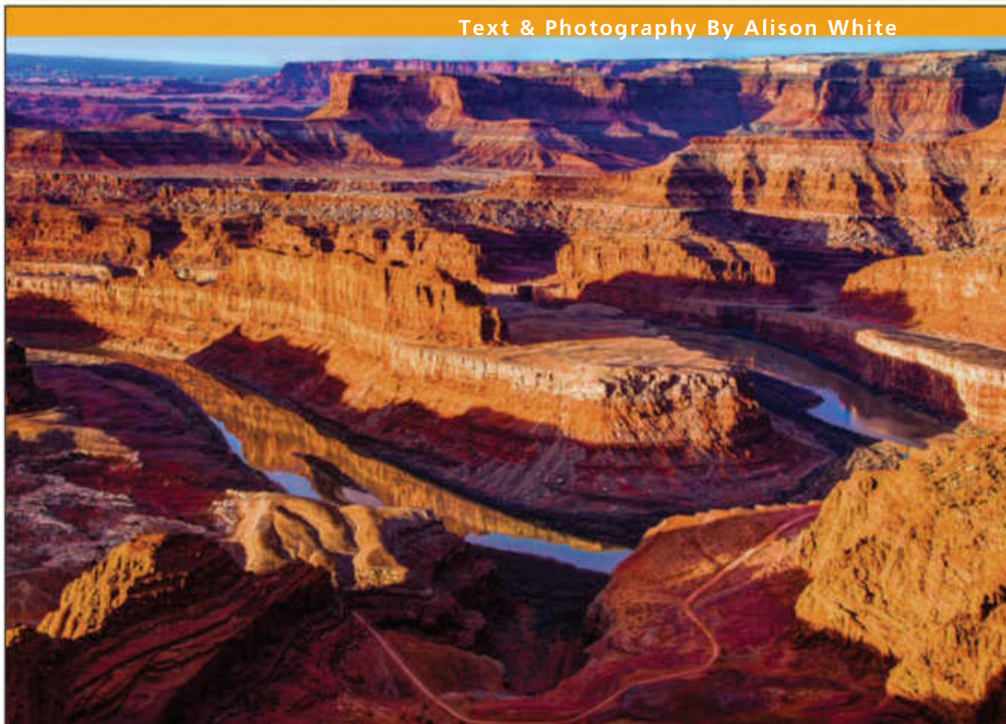
the iconic “Hollywood” sign in the background. The photo changed how people view urban wildlife. It also catalyzed the California Department of Transportation to conduct a feasibility study for a wildlife overpass, which would allow animals safer passage through the urban jungle of greater Los Angeles.

Says Winter, “If my pictures give people hope and a reason to care, then I can’t ask for anything more.” **OP**

Steve Winter has won several awards and wide recognition for his wildlife photography, including being named *BBC Wildlife Photographer of the Year* and *BBC Wildlife Photojournalist of the Year*. He lectures around the world on photography and conservation issues. Learn more about his work at stevewinterphoto.com. **Amy Gulick** is a Fellow of the International League of Conservation Photographers. Her book, *Salmon in the Trees: Life in Alaska’s Tongass Rain Forest*, is an Independent Publisher Book Award winner. Learn more about her work at amygulick.com.

FAVORITE PLACES

Text & Photography By Alison White



DEAD HORSE POINT STATE PARK

Moab, Utah

LOCATION

Dead Horse Point State Park looms 2,000 feet above the Colorado River and imposing Canyonlands National Park in Utah, sprawling over 5,300 acres in high-desert altitude. There are miles of developed hiking trails in the park, including a paved trail that provides easy access to some of the most scenic views. There's also a 21-tent-site campground with picnic tables and a visitor center that's open year-round. The park is located nine miles north of Moab on US 191; turn west on SR 313 and travel 23 miles. It takes about 40

minutes to drive from downtown Moab. Park in the main car park for Dead Horse Point.

THE LEGEND OF DEAD HORSE POINT

According to one legend, the point once was used as a corral for wild mustangs roaming the mesa. Cowboys rounded up the horses, herded them across a narrow neck of land and onto the point. The neck, which is only 30 yards wide, then was fenced off with branches and brush, creating a natural corral surrounded by precipitous cliffs. Cowboys chose the horses they wanted and, for reasons unknown, left the other horses corralled on the waterless point where they died of thirst within view of the Colorado River 2,000 feet below.

WEATHER

Moab experiences a variable climate. Winter tends to be mild

in lower elevations, which creates great conditions for long walks and day hikes. Higher elevations in the nearby La Sal mountain range offer skiing and snowmobiling. Occasionally, a winter snowfall presents unique landscape photographic opportunities. Summer days in Moab are hot and dry, cooling down in the evening. It's highly recommended to pack extra water when hiking the canyon during summer months.

PHOTO EXPERIENCE

The Moab area is a paradise for photographers. Under conditions of constantly changing light, Dead Horse Point State Park's landscape provides limitless photographic opportunities, with a view that stretches more than 100 miles. Certainly, the best time of day for photography is during sunrise or sunset, when the red rocks seem to glow with

intense color. A wide- to medium-range zoom lens is ideal, so if you have a 24-70mm or 24-120mm equivalent, it would work great. Bring a polarizer to control haze and enhance saturation.

BEST TIMES

Sunrise and sunset are the best times to capture the popular view of the gooseneck in the Colorado River and the distant Canyonlands. For the best vantage point, walk past the observation deck and continue along the path for approximately 100 feet. There are no rails, and visitors are warned to use extreme caution when approaching the edge of the cliffs. March through May are the most popular months, while summertime is ideal for photographing thunderstorms over the canyons.

OP
Contact: Dead Horse Point State Park, stateparks.utah.gov/parks/dead-horse. To see more of Alison White's photography, visit aliwhite.zenfolio.com.



Essential Gear

Zooms that provide focal lengths from wide to moderate telephoto are ideal for capturing the expansive vistas at locations like Dead Horse Point. For Canon and Nikon full-frame DSLRs, the **Tokina AT-X 24-70mm F/2.8 PRO FX** offers this sweet-spot range, with a fast maximum aperture of $f/2.8$ throughout the zoom range and a minimum focus distance of just under 15 inches for wide compositions that incorporate prominent foreground elements. List Price: \$999. **Contact:** Kenko Tokina USA, kenkotokinausa.com.



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“The term visualization refers to the entire emotional-mental process of creating a photograph, and as such, it is one of the most important concepts in photography.”

— Ansel Adams

The Power of Visualization

TEXT & PHOTOGRAPHY BY MICHAEL FRYE

If a master like Ansel Adams thought that visualization was such an important concept, we should probably pay attention. What did he mean by “visualization,” and how does visualization apply to digital photography today?

Although Adams mostly talked about visualization in relation to technique, he also made it clear that visualization was part of the creative process.

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He wrote: “Visualization is a conscious process of projecting the final photographic image in the mind before taking the first steps in actually photographing the subject. Not only do we relate to the subject itself, but we become aware of its potential as an expressive image.”

In other words, when you have an idea for a photograph, that idea can and should include a visualization of what the

final photograph will look like and how that finished image will express the feeling you want to convey. Do you visualize a photograph with dramatic contrast, or one that’s soft and impressionistic? Would the colors in the scene help to convey your idea, or would the concept be expressed better in shades of gray? Does the feeling you’re after require sharpness and clarity, or would some blur-



An Ethereal Mood

A promising sunset at Yosemite's Tunnel View fizzled when clouds and fog closed in, obscuring the cliffs and valley, but I decided to wait, and about 20 minutes later, the fog parted, revealing a beautiful, misty scene illuminated by fading alpenglow.

By then, the light was dim enough to require a 30-second exposure at $f/11$ and ISO 100. I could have opened up the aperture or raised the ISO to get a shorter shutter speed, and prevent the clouds from moving and blurring, but I wondered what would happen if instead I used a longer exposure to make the slow-moving clouds really blur. I visualized a photograph with an ethereal mood, created by deliberately blurring and softening the clouds, and enhanced by the pastel colors of the alpenglow.

So, I lowered the ISO to 50, stopped down to $f/16$, set the camera to Bulb and made a series of two-minute exposures. The clouds blurred nicely, and all of the images had that soft look I was after, but one frame had a particularly appealing arrangement of clouds and mist.

Processing the image was the final step in making my visualization come to life. The RAW file was quite flat, so I made a sharp S-curve in Lightroom to increase the contrast. Bringing out those pastel colors required using a custom camera profile and pushing the white balance up to 23,000K to compensate for the extremely blue dusk light. I even used a bit of negative Clarity (-15)—something I rarely do—to enhance the soft feeling.

If you visualize how you want a photograph to look before you press the shutter, you'll have a clear direction to follow when processing the image. Instead of randomly pushing sliders, each move and decision will have purpose and intent. With this photograph, every processing step was designed to help bring out the soft, ethereal, pastel look I had visualized.

Applying one of Ansel's guiding photography concepts in the digital age

Clearing storm at dusk, Tunnel View, Yosemite National Park, California.

ring suggest that mood more strongly?

Digital photography is highly flexible. We have almost unlimited ways of controlling the look of our photographs, both before and after we press the shutter, but to take advantage of that flexibility, we have to visualize the final result first so we can employ all those controls with a clear purpose.

The next time you see a subject or

scene that appeals to you, ask yourself why you responded to it. What appeals to you about the scene? What feeling or mood do you want the photograph to convey? Answering those questions should help you develop a clearer idea of how you want the final image to look. And that visualization can guide each decision in the photographic process—the camera position, what to include and exclude in

the composition, the camera settings and how to process the image.

Looking back through my own work, it's clear that my best photographs were created when I had a strong response to a subject or scene, knew the feeling I wanted to convey and was able to visualize in advance how I wanted the finished image to look. Here are some examples of that process of visualization in action.



Sunrise Drama

The next example was made from the same spot, with a similar composition, but the light and mood required a radically different visualization.

A broken layer of clouds drew me to Tunnel View early on a spring morning, and as the sun rose higher, beams of light streamed through the clouds and onto the valley floor. At one point, I realized that the sun was about to come out from behind El Capitan, and it

might be possible to capture a sunburst when it first appeared.

As I prepared to capture that moment, I visualized how I wanted the final image to look. It would need to have plenty of contrast to enhance the drama of the scene, but that wasn't a problem, as it was an extremely contrasty situation. In fact, there was too much contrast—far too much to handle with one frame. I wanted drama, but didn't want

the entire foreground to be black or big chunks of sky to look washed out.

The only way to make the photograph I envisioned would be to bracket and blend exposures. I set the auto-bracketing on my camera to capture three frames, two stops apart. I then took some test exposures to make sure the lightest frame had detail in the shadows and the darkest frame had detail in most of the sky. I used a small aperture



Figure 4: Sunbeams from Tunnel View, Yosemite—the final, blended image.

($f/16$) to try to get a sunburst effect.

When the edge of the sun appeared, I started firing bracketed sequences, hoping that at least one group of images would have a good sunburst, without lens flare. The photographs on the back of the camera looked, well, awful—much too harsh and contrasty (Figures 1, 2 and 3). I ignored that, knowing that blending the bracketed exposures would produce the result I visualized.



Figures 1, 2 and 3: Sunbeams from Tunnel View, Yosemite—the three original, unprocessed exposures.

Reviewing the images later, several bracketed sequences had good sunbursts, with no lens flare. I chose the sequence with the best sunburst, but the photograph proved to be difficult to process. Two different brands of HDR software both created unnatural-looking colors and weird halos. Instead, I turned to a favorite software tool, LR/Enfuse. This did a great job of blending the exposures in a natural-looking way (Figure 4).

It might have been possible to lighten the shadows even more, but the sunbeams needed to stand out against darker surroundings to convey the sense of light from above piercing through the darkness below. Lightening the shadows too much would have reduced the contrast and lessened the dramatic effect. Again, knowing what I wanted the photograph to convey helped with making every decision.



Figure 5: Eastatoe Falls, North Carolina—the unprocessed RAW file.

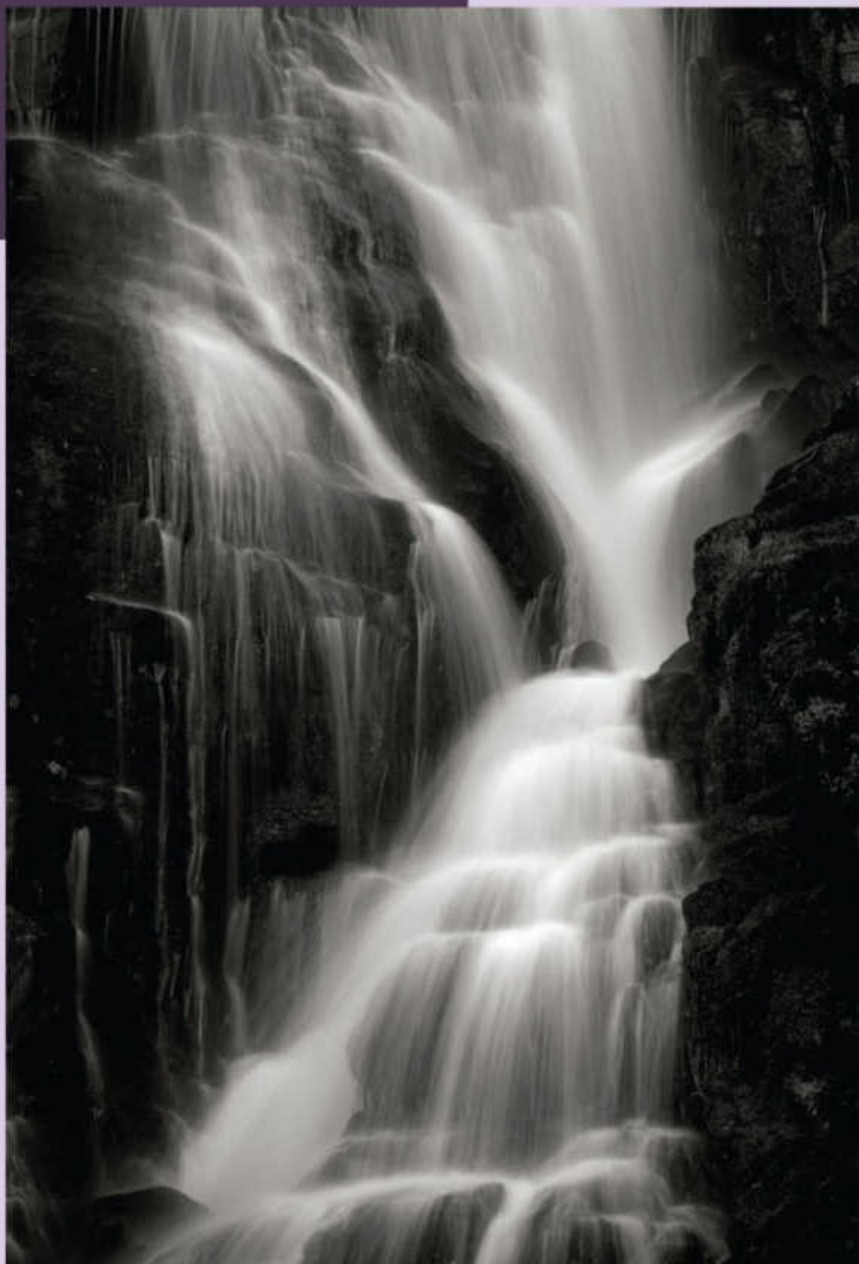


Figure 6: Eastatoe Falls, North Carolina—the final image.

Seeing in Black & White

This was my first visit to this North Carolina waterfall, and I loved its shapes, textures and tiers, but finding a composition was challenging, partly because a log near the bottom of the fall disrupted many possible ideas. I finally zeroed in on this hourglass shape near the middle of the cascade, above the log—a composition with a strong overall design that seemed to capture some of the character of this waterfall (Figure 5).

This image was all about form, shape and texture. Color only would have distracted from those qualities, so before even pressing the shutter, I visualized this photograph in black-and-white. I also envisioned lots of contrast, emphasizing the difference between the light water and darker surrounding rocks so the overall shape of the waterfall would stand out. During processing, it was easy to convert the photograph to black-and-white and increase the contrast with an S-curve. The final image is exactly what I visualized (Figure 6).

Thunderstorm

Late one August evening, I saw distant flashes of lightning from my house in the Sierra Nevada foothills. I looked at radar images online and saw that a line of thunderstorms was moving into the San Joaquin Valley, so I drove to a spot in the Sierra foothills with a view looking west toward the storms.

The lightning was still 30 to 40 miles away, so at first I used a telephoto lens to zoom in and fill the frame with the bolts, but that tight framing didn't seem to capture the feeling of that expansive view with distant lightning, so I considered other possibilities. There were some interesting broken clouds above the lightning, with stars poking through, and I had a sudden idea—a visualization of a photograph with a row of lightning along the bottom of the frame and the clouds above.

I put on a 24mm lens to frame that wide view, then set the shutter speed to 20 seconds. A longer shutter speed would have blurred the clouds too much or turned the stars into streaks. The exposure for the bolts was controlled by the aperture and ISO, because the lightning would be illuminated only for the brief split second that each bolt was visible, regardless of how long the shutter was open. Based on past experience, I set the aperture to $f/8$ and the ISO to 400.

Then I locked the shutter button down with my camera's cable release so it would take a continuous series of 20-second exposures and kept the sequence going for over two hours.

The final image is a blend of 13 frames, taken over about an hour when the lightning was most active. Most of this photograph consists of just one frame, when a bright bolt of lightning illuminated a particularly interesting formation of clouds (Figure 7). All that's visible of those other frames is the lightning itself and some immediately adjacent clouds that were illuminated by the bolts. All 13 frames were blended together in Photoshop using the Lighten blending mode and layer masks (Figure 8).



Figure 7: One frame captured a lightning bolt that illuminated an interesting cloud formation. This was used as a background for the final composite image.



Figure 8: Lightning over California's San Joaquin Valley from the Sierra foothills—the final image.

The Power of Visualization

In the end, despite rather long odds against it, I got almost exactly the lightning photograph I envisioned. A photograph like this can't be seen with our eyes in real time. A long-exposure sequence has to be imagined, and then executed, something that only can be done with the power of visualization.

Even more “ordinary” scenes can be improved through the power of visualization. As Ansel Adams understood, every photograph that has meaning, that goes beyond just a literal recording of reality, is an interpretation. The more clearly you can visualize the final image, the more powerful your interpretation will be. **OP**

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Courtesy of U.S. National Archives

ANSEL'S PUBLIC WORKS

Ansel Adams' images on assignment as the U.S. Department of the Interior's Photographic Muralist are an enduring record of the great American landscape that we all share

BY WILLIAM SAWALICH

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In the summer of 1941, Ansel Adams was recruited for employment by the United States government. His assignment was simple: For no more than 180 days of the coming year, he would travel the country making photographs of national parks and notable American landscapes at a rate of \$20 per day. The government would provide film, paper and darkroom chemicals. In return, Adams' negatives would be used to create photographic murals for display in the halls of the Department of the Interior.

It all started when Interior Secretary Harold Ickes—who had previously met Adams and purchased a decorative screen from the young photographer—began commissioning painted murals for the halls of the Interior building. Ickes wanted to augment the painted murals with images “made by the photographic process.”

In June 1941, Adams received a rather cryptic letter from the First Assistant Secretary of the U.S. Department of the Interior, E.K. Burlew, requesting a meeting the next time Adams was “in the East.” After a bit of back and forth, it was

explained that Secretary Ickes would like to commission Adams to produce 36 murals. Adams arranged the meeting and, soon thereafter, on October 14, 1941, he accepted the appointment to his post—Photographic Muralist, Grade FCS-19.

Adams and Burlew ironed out the details of the project by postal service and telegram. That correspondence—which outlined the nuts and bolts of materials, costs and timelines, as well as Adams’ aesthetic and creative concerns—is contained in the same file at the National Archives and Records Administration as the images Adams produced for the project.

In an October letter to Burlew, Adams detailed his travel plans for the coming weeks, explaining that although he would be working for two other clients, he would seize every opportunity to make photographs relating to the mural project on a trip through the Southwest. In an effort to continue their correspondence, Adams went on to explain that he could be reached by general postal delivery in Santa Fe, New Mexico, on or around October 29. He didn’t know it yet, but he was describing the time and place in which he would produce one of the most iconic photographs of all time.

On November 1, 1941, after spending the day fruitlessly photographing outside of Santa Fe, Adams was returning to his hotel in the late afternoon when a glow in the fading light caught his eye. He quickly pulled his car to the shoulder of Route 84 and hurried to capture an image in the twilight. He was only able to make a single exposure of the scene, but it was enough. It depicted the moon rising over Hernandez, New Mexico.

Though he was traveling on assignment for two commercial clients, as well as the U.S. government, the iconic moonrise image was made for Adams himself. In correspondence with Burlew, Adams made clear not only that he would use government film for the mural project and his own film for personal work, but also that he took no issue with the government’s outright ownership of the negatives created for its mural project.

“I am quite certain that no problem will arise about government ownership of the negatives,” he wrote to Burlew. “The pictures will be made for an especial purpose—the Murals—and, while they may have some publicity value to



Courtesy of U.S. National Archives



Courtesy of U.S. National Archives

OPPOSITE PAGE: Canyon de Chelly National Monument, Arizona, 1942.

TOP: McDonald Lake, Glacier National Park, Montana, 1942.

ABOVE: Snake River, Grand Teton National Park, Wyoming, 1941.



U.S. Government Seeking To Hire A Landscape Photographer

In a job posting that reads strikingly similar to a description of Ansel Adams' 1941 assignment, the U.S. Department of the Interior is again looking to hire a landscape photographer to produce large-format black-and-white photographs for the permanent collection at the Library of Congress. This time, however, the position is to be full time and permanent, and at a rate of between \$63,722 and \$99,296 per year. Not bad pay for traipsing around our national parks with a camera in tow. The application process is, unfortunately, now closed.

Tewas in headdress, San Ildefonso Pueblo, New Mexico, 1942.

your department, they should not be used otherwise. If I come across exciting material that I would want for personal use I will photograph it on my personal film. It will be a simple matter to keep material accounts straight. Conversely, when I am on personal excursions, I will not neglect opportunities to make negatives for the project."

Adams went on to write, "...in these matters I shall be reasonable; the details will work out as we go along." The tenor of each of his letters is magnanimous. Time and again, Adams offered to go above and beyond what was required of his assignment, to accommodate any alterations his employers might request, and even to go so far as to work beyond the 180-day contracted maximum without pay in order to complete the project as the artist envisioned it.

Adams designed the murals project always to have one major subject on which he would concentrate and two secondary subjects. When the assignment began, Adams' first focus was the national parks, a series he hoped to complete by June 30, 1942. The secondary focus would be Native American arts and crafts, and the Native American lifestyle, in general. In each case, these subjects were near and dear to Adams throughout his life.

Adams made clear in another letter that, although he would be working on assignment for the government, he had no intention of creating the kind of dark, depressing documentary images that came out of Depression-era Works Progress Administration assignments.

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Taos Pueblo National Historic Landmark, New Mexico, 1941.

"The treatment I propose for the above subjects would in no way be reminiscent of the documentary photography of the 1930s," he wrote, "in which a more or less negative aspect of our civilization was stressed for purposes of social improvement and reform. I would stress the positive aspects; the advancement of civilization and the grandeur of our natural environment."

Just two months after the commission began, Pearl Harbor was attacked and the United States entered World War II. Just three weeks later, the 39-year-old Adams wrote to Assistant Secretary Burlew to offer his services to the war effort in any way the bureaucrat saw fit.

"May I assure you of my eagerness to be of service in every possible way at this time," Adams wrote. "I trust you will not hesitate to request my services in any way consistent with my abilities. I believe my work relates most efficiently to an emotional presentation of 'what we are fighting for,' but if the need should arise I will gladly undertake any type of work required."

Fully expecting to join the Army or Navy in a photographic capacity by the end of 1942, Adams grew increasingly eager to complete his mural project as soon as possible. He had photographed nearly a dozen national parks and monuments, and eventually he'd deliver 221

gelatin silver prints to the Department of the Interior. With the focus on the war, however, Adams' appointment was terminated in July 1942 and the murals project was stalled—until 68 years later, when in spring 2010, then-Secretary of the Interior Ken Salazar commissioned 26 mural prints of Adams' images from the original project to be displayed on the first and second floors of the main Interior building. It took a lifetime, and Adams himself never got to see it, but his government mural project was finally complete.

Accessing the Long-Dormant Archive of Images

For the seven decades in between, those 221 prints largely sat untouched in a series of boxes on a series of shelves at the National Archives and Records Administration (NARA) in Washington, D.C. At some point during Adams' lifetime, according to records, it appears a set of copy negatives was made of the submitted prints for archival reasons, though it's unclear if those were made from the original prints or negatives.

Because Adams produced the photographs as a government employee, he didn't retain copyright for the images. The U.S. government had full rights to the images (though Adams himself did keep the original negatives), and under the direction of NARA, the images were in the public domain—free to use by the American people, howsoever we may see fit.

Even though the photographs were long available to the public, before the digital era there weren't many citizens who knew about Adams' government images or had access to them. But in the late 1990s, NARA made a push to digitize as much of its archive as possible. As a fairly high-profile portfolio of images, the mural project prints were scanned and made available online (in low-resolution form at no charge, with high-res files available for a nominal fee). A Flickr page even was created. Still, Americans, as a whole, weren't making use of this unique archive of images. They may have been free, but they weren't freely accessible.

That all changed in 2011, when NARA appointed archivist Dominic Byrd-McDevitt as its first "Wikipedia in Residence." Byrd-McDevitt's



Castle Geyser, Yellowstone National Park, Wyoming, 1941.

mission was to make valuable historical information easily available to the American public, and the Adams portfolio was a high priority.

"As a high-value collection," says Byrd-McDevitt, "the Ansel Adams photographs from the Department of the Interior's records were part of the agency's early digitization efforts in the late 1990s and have been publicly available in our catalog since then. NARA has been working together with the Wikipedia community for several years now, because NARA's mission is to make public records accessible to the public. Wikipedia, one of the most viewed resources on the web, is an important part of our digital access strategy. NARA's records on Wikipedia, including the Ansel Adams photos, now receive over a billion views annually, which is more than all other digital platforms, including the catalog, websites and social media, combined.

"While our actions in making these scans available for Wikipedia was not the first time they

were seen by the public," Byrd-McDevitt continues, "it represented a proactive effort to put our cultural heritage where the public would get the most access and use out of it. Since these images are free and in the public domain, putting them in Wikipedia means it is much more likely that people will find and use them for any number of other purposes—which

is what we are about as an archives, not just preserving records, but innovating to maximize reuse and sharing of them, even outside our research rooms and websites."

Notes Byrd-McDevitt, "We care about this not for self-promotional reasons or for any political agenda, but because it is rooted in our role as a profession, and the National Archives' role within our society. In the words of David Ferriero, the Archivist of the United States, 'At the Archives, the concepts of openness and access are embedded in our mission. And the work we do every day is rooted in the belief that citizens have the right to see, examine and learn from the records that guarantee citizens' rights, document government actions and tell the story of the nation.'"

During his relatively brief tenure as an employee of the U.S. government, Ansel Adams made more than 200 photographs that clearly and succinctly added to our national story. And, thanks to the diligent efforts of archivists like Dominic Byrd-McDevitt, gaining access to that story is easier and more efficient than ever. **OP**

MORE On The Web

See the documents relating to Ansel Adams and his photography for the U.S. government at outdoorphotographer.com/ansels-public-works.

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Sharpen

**5 ways to make
more meaningful
images of nature**

You can make sharp, properly exposed photos—so what? A technically flawless image lacking a compelling theme won't do much for viewers. Ansel Adams once said, "There is nothing worse than a sharp image of a fuzzy concept." If you can't make photos that excite people, then your work will never get noticed.

Making the leap past "fuzzy concept" photos won't just happen overnight, and instead takes time and lots of practice. I've been making photos for 20 years, and I'm still constantly learning how to strengthen my artistic vision. Although I can't offer any shortcuts, I can share five of my favorite techniques for making bold photographs to help you sharpen your personal creative vision and to inject energy, life and meaning into your images.

Your Vision

TEXT & PHOTOGRAPHY BY IAN PLANT

1 Don't Be So Literal

Minor White once said, "One should not only photograph things for what they are but for what else they are." Artistic abstraction, learning to see visual elements "for what else they are," is the key to sharpening your creative vision. Try to think of elements in your scene not as waterfalls, mountains and trees—the literal interpretation of these objects—but rather in terms of perspective

(depth and scale), space (the placement and arrangement of visual elements) and shapes (triangles, curves, lines, circles and other shapes). Composition is nothing more than figuring out a way to make all of these abstract components relate to one another. Learning to think abstractly is the single most important thing you can do to improve your artistic skills.

Abstract thinking will allow you to see

creative possibilities that you would miss otherwise. For example, when three elephants crossed by a water hole at sunset, abstract thinking allowed me to see the artistic potential offered by this reflection scene combined with some creative exposure. The result is an abstract photograph that moves beyond a mere documentary shot and instead sparks curiosity on the part of the viewer.



Puna de Atacama, Argentina

Canon EOS 5D Mark III, Canon EF 11-24mm f/4L USM, f/13, 1/25 sec., ISO 100

2 Get Closer!

Photojournalist Robert Capa once said, “If your pictures aren’t good enough, you’re not close enough.” Too often, when I see a photographer who’s struggling to come up with a coherent concept for their photo, the reason is simple: They’re simply not close enough to their subject.

For landscape images, what “getting close” really means is “getting close to an interesting foreground.” Having a compelling foreground is really important, as it helps establish a relationship between the bottom of the photograph and the top, which enhances visual interest and leads the viewer’s eye deep into the scene. Since the foreground element is the first that the eye encounters, you better be sure it’s interesting and relevant to the rest of the composition; in other words, it must assist in the creation of depth and visual progression into the scene.

Not any old foreground will do! Resist the temptation to find something—anything—to put in the foreground just so you have something there. Take the time to find a foreground that actually works toward your goal of captivating viewers and visually trapping them in your composition.

Wide-angle lenses are especially helpful when creating compositions that juxtapose foreground and background, as you can get really close to a foreground element and exaggerate its importance relative to the background. I often tell my workshop clients that, in a sense, the foreground becomes the subject, or at least it should be as important to the composition as the background subject.

When exaggerating the foreground’s size relative to the background by getting close with a wide-angle lens, you can easily fill the bottom part of the frame with your foreground subject, immediately enhancing its importance in the overall composition. I used this technique when photographing this scene in the high-altitude desert of northern Argentina; by getting very close with a wide-angle lens to some interesting salt formations, I was able to exaggerate and emphasize their shape, and create a bold visual relationship between the foreground and the background storm clouds.

3 Master The Art Of Exclusion

Too often, beginning photographers see something that catches their eye and instinctively point the camera in that direction, without giving too much thought as to how to refine and hone the scene. The result is simply too much within the picture frame, leading to a cluttered and chaotic composition. In many ways, photography is all about what to exclude from the image frame. Sometimes less is more! I call this the art of exclusion, which is learning to simplify and boil a scene or subject down to its essence. For example, with this shot of a polar bear cub, I opted for a simple, clean and graphic presentation, zooming in tight on the bear, but still waiting for an expressive moment to create a story for the viewer.



Torres del Paine National Park, Chile

Canon EOS 5D Mark III, Canon EF 11-24mm *f*/4L USM, *f*/6.3, 0.8 sec., ISO 100



Arctic National Wildlife Refuge, Alaska

Canon EOS 5D Mark III, Canon EF 200-400mm *f*/4L IS USM, built-in 1.4x converter, *f*/4, 1/500 sec., ISO 500

Of course, sometimes there's the risk of getting too simple. Although it's important to master the art of exclusion, it's equally important to master the art of inclusion, which is learning how to successfully work with complex and even chaotic scenes. The lessons of simplicity will serve you well in such instances. I'm always looking for a bold and graphic shape to tie the overall composition together and to help tame the chaos. The marriage of simplicity with complexity will allow you to create sophisticated compositions that have both a strong initial impact and hold the viewer's interest over time. For example, with this sweeping wide-angle scene, I made a simple curving shape—created by the confluence of the incoming wave with the dramatic storm cloud above—the centerpiece of my composition.



Del Norte Coast Redwoods State Park, California

Canon EOS 5D Mark III, Canon EF 16-35mm *f*/4L
IS USM, polarizing filter, *f*/11, 1/25 sec., ISO 100

4 Avoid Tame Light

I often see photographers playing it safe when it comes to light, shooting only when their subjects are evenly illuminated (such as when frontlit or in overcast light). Safe light will more easily yield technically competent images, but often nothing that excites, inspires or engages the viewer's curiosity. So forget tame light. Instead, aim for light that's like an uncaged

beast! Spectacular lighting conditions may be challenging to work with, but when you get it right, the rewards are well worth the difficulties.

My favorite style of shooting is against the light (known as “contre-jour”). Contre-jour lighting occurs when you point your camera toward a source of light such as the sun. This causes the subject to be backlit, increasing contrast and often obscuring subject detail.

I also enjoy shooting in bad weather and on the edge of light for unique and compelling results. I often say that when moisture and light collide, photo magic is usually the result. A bit of fog transformed this scene into something evoking a magical forest glen; the mist allowed me to get creative with the light and composition, and it transformed otherwise tame midday light into something bold and compelling.



Volcanoes National Park, Rwanda

Canon EOS 70D, Tamron SP 70-200mm f/2.8 Di VC USD, f/2.8, 1/500 sec., ISO 200

5 Tell A Story

Make every picture worth a thousand words! The very best photographs tell a story rather than just merely creating a record of a place or a moment. When there's a story behind the image, especially a mysterious one, viewers engage on an emotional level, encouraging them to linger and study the photo. Everyone—and everything—has a story to tell, and it's the photographer's job to figure out what that story is and to present it to others in a compelling way. So strive to go beyond making pretty snapshots and seek to capture expressive moments instead.

Exposure, composition, moment and light can all be used to creatively tell your subject's story. Also, try to make your photos interactive—anything that invites the viewer into the scene is important when trying to elicit an emotional reaction (a simple, yet

powerful example of this is eye contact with the subject). I used several of these techniques while photographing this mountain gorilla in Rwanda. I was looking for a way to tell the story of these enigmatic and reclusive animals, so I photographed the gorilla through a gap in a screen of leaves in order to create a mysterious presentation. By shooting wide open with a telephoto lens, the leaves were rendered as abstract, out-of-focus blurs of color. I triggered the shutter when the gorilla made eye contact with me (and, by extension, the viewer).

People and wildlife don't have a monopoly on stories; places and objects have a story to tell, as well. When working with landscapes, one way to tell a story is to establish a "sense of place"—to find something that's unique to the landscape you're photographing. I think the best approach is

to simply ask yourself the following: What is it about the scene that I find inspiring or appealing? What seems unique to me? What can be found here that can't be found anywhere else? Which features of the scene tell its story best? Answering these questions will help dictate which elements to include in the composition, and ensure that your artistic vision is refined and shows through clearly to the viewer. **OP**

World-renowned professional photographer and Tamron Image Master Ian Plant is a frequent contributor to Outdoor Photographer magazine, as well as a number of other leading photo magazines. See more of his work and download his free photography how-to ebook, Essential, at his website, ianplant.com.

Modern Printmaking

Part Two: Consistency

Understanding color spaces, profiles and device calibration

TEXT & PHOTOGRAPHY BY JASON BRADLEY

In case you missed it, in the last issue, we kicked off this four-part series on printmaking with modern tools. Part One focused on the value of printing in our digital era, and here, with Part Two, I'd like to jump into distilling the complicated practice of digital printing—or, at least, to jump into distilling the theory behind the practice.

Digital printing workflow is all about consistency. The thing with analog printing, especially printing that requires dodging and burning, and masking, is that no two prints are exactly alike. Digital printing, when practiced well, eliminates the unpredictable nature of analog printing. Once an image has been developed and proofed in Lightroom, Photoshop or elsewhere, printing becomes a matter of hitting "Print". Admittedly, it's not as easy as that, but compared to building a dark-

room, mixing chemicals, developing and fixing paper, it kind of is. Making the one hundredth print versus the first should be, theoretically, the same—even if you print on different printers or on different papers—as long as you know how to practice a workflow that supports such consistency.

Consistency also refers to knowing that what we see on our computer screens will match what comes out of our printers. It's true that the criteria for consistency can vary, depending on how critical your eye is, the requirements of your audience and clients, your budget, and what equipment you already may be invested in and using. Considering all that, I suggest your goal should be to create consistency relative to your needs. Whether your standards are high and you need perfection because your clients and studio demand it or you're fine with relative accuracy (most are,

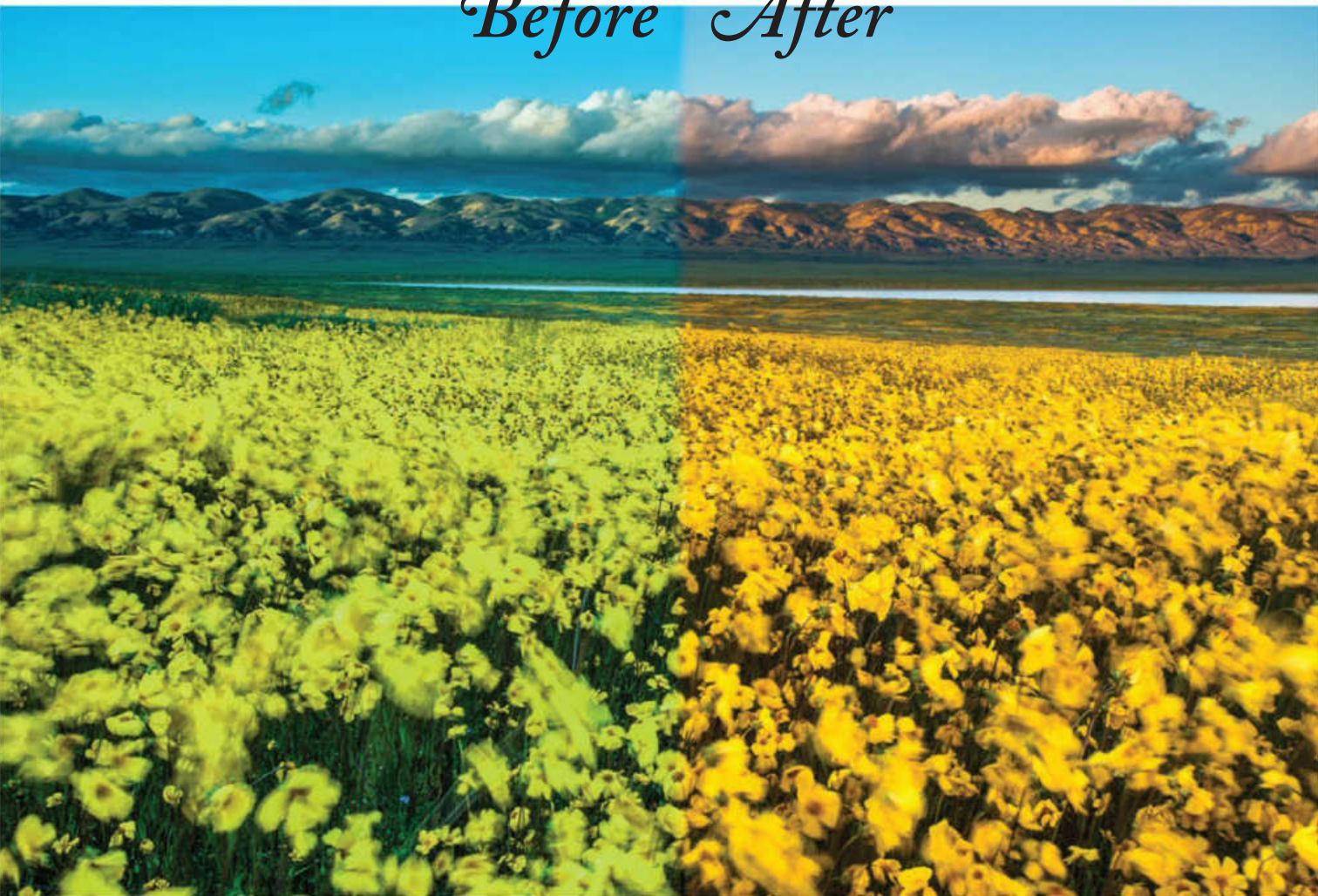
as I am), the secret to consistency lies in training all the hardware along your workflow chain to speak to one another.

ICC Color Management Basics

All of the cameras on the market today, and all of the computer monitors, portable tablets, printers, printer inks and photo papers, render tones differently. Some can reproduce a wide range of tonality and color, while others are limited. Adding to the complexity, some devices use one language to communicate color, while other devices use a completely different language.

Since different devices in our workflow chain speak different languages, we need a standard that enables one device to understand another, allowing us to manage colors in our images when moving them from device to device. Luckily, such a standard language exists, created by the International

Before After



Color rendition before and after display calibration. Calibrating your display is one of the most important steps in creating a consistent digital printing workflow.

Color Consortium (ICC). In a nutshell, the ICC is an organization that was formed in 1993 to help solve the problem of digital color reproduction, and it did so by creating a vendor-neutral color management system. Referred to as ICC Color Management, the system is practiced simply by integrating ICC profiles into our workflow.

The first step in color management is knowing a few terms related to device calibration, including the difference between a color space, a color profile and an ICC profile. From there, we can talk about how to integrate ICC profiles into our printing workflow.

Color Spaces. Color models such as RGB (red, green, blue) or CMY (cyan, magenta, yellow) can be mixed together in endless ways. To define color in a digital environment, red, green and blue need to be quantified numerically. Color spaces provide a way to do this.

Adobe RGB, sRGB and ProPhoto are commonly used color spaces for photographers (Figure 1).

Color Profiles. A color profile essentially is a color space attached to an image. For example, Adobe RGB and sRGB are color spaces, but if I embed one of them into an image, that space is then the image's color profile. Our computers and software such as Lightroom need to reference a color profile in order to define color and tonality as we work with our photos.

ICC Profiles. An ICC profile is a color space that characterizes a specific device, such as a monitor, printer or camera, and associates that space with a vendor-neutral industry-standard set of colors defined by the ICC. This process of characterization is also called calibrating. Figure 2 shows my colorimeter, a monitor-calibrating device, analyzing my monitor as soft-

ware projects colors at different shades and brightness values. After my monitor has been calibrated, all colors and tones will be displayed through the ICC profile created during the calibration process. ICC profiles further define a mapping protocol between the source color space and a profile connection space. This allows for efficient communication and translation of color when moving from device to device in a given workflow—as long as ICC profiles are used all along the workflow chain.

Calibration and the Practice of Color Management

Even though all of your devices need to be profiled to practice an ICC Color Management workflow, that doesn't mean you need to invest in the tools and the time required to do it all yourself. In fact, I suggest you don't do that. All you—and the vast majority of photog-

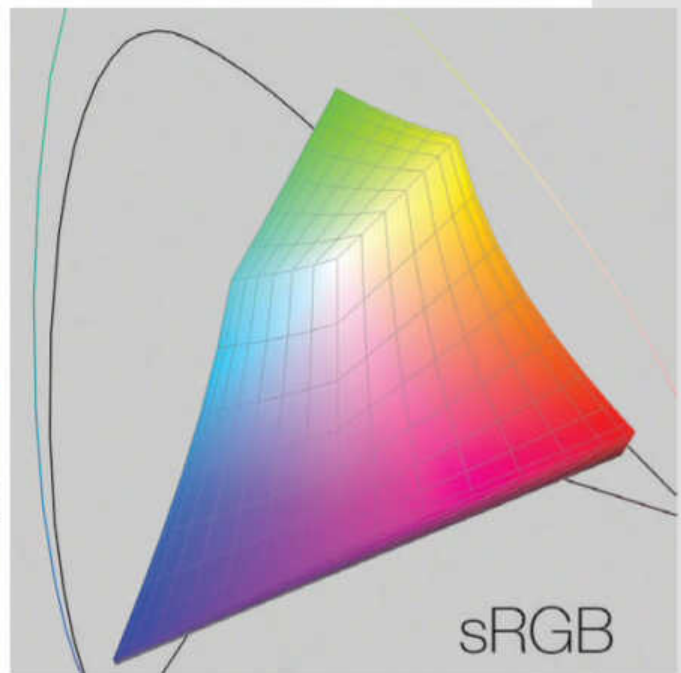
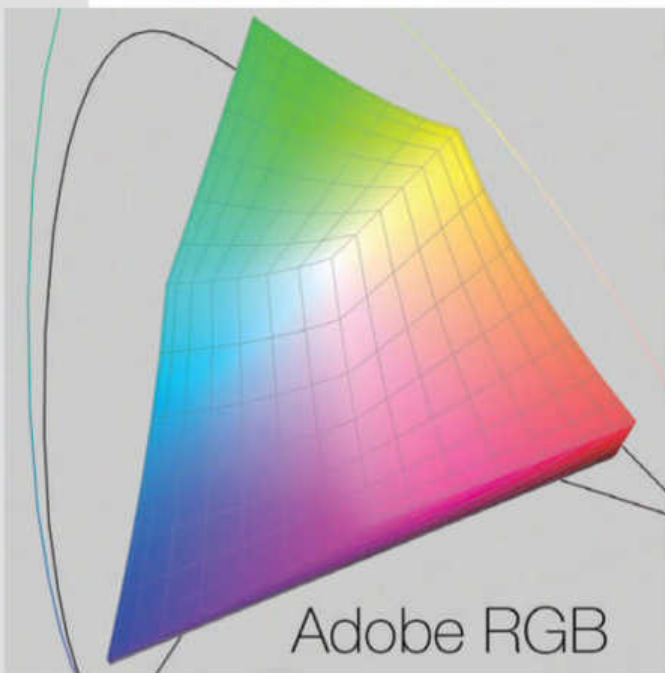


Figure 1: Adobe RGB and sRGB are commonly used color spaces that assist computers and programs in defining the parameters and range of color. Spaces can be big or small.

raphers out there—need to do in order to start experiencing some degree of consistency is to calibrate your monitor and begin incorporating ICC print profiles into your routine.

Personally, I've owned and used the X-Rite ColorMunki Display. I think it's a great moderately priced calibrator and does everything one would need to obtain a good profile. With that said, I also like and suggest the Spyder5PRO or the Spyder5ELITE by Datacolor.

Here are my top tips for calibrating your monitor:

- Calibrate once per month.
- Use a room with consistent ambient light that's moderately lit and has no direct sunlight hitting your monitor.
- Use your monitor calibrator to measure the room's ambient light when creating your profile.
- Use gamma 2.2. Not all calibrators do this, but it's a good feature if you're working in places with drastically changing light conditions.
- Set the brightness at 80-100 cd/m2. Monitor calibrators that measure your room's ambient light likely will suggest a brightness value based on the amount of available light in the room.
- Use white point D65. This is generally the go-to white point, but if you're certain of the color temperature that's lighting your prints, adjust accord-

ingly. Using the monitor's "native" white is also a good choice if your colorimeter doesn't give you the option of choosing a custom white point.

After calibrating your monitor, which may look weird to you at first because you're seeing colors displayed in a new way, use the same monitor calibrator to verify your calibration so you know you've created a good profile. Different colorimeters do this differently, so refer to your manual to get instructions on how to verify the quality of your profile.

Integrating ICC Print Profiles

Calibrating your monitor is essential, but I can say with confidence that consistency isn't possible without the use of the ICC Print Profile. While monitor calibrators characterize your monitor, printing profiles characterize your printer, your ink and the papers, canvas or other media you're running through your printer.

To create your own custom print profiles, you'll need to invest in a spectrophotometer like the one shown in

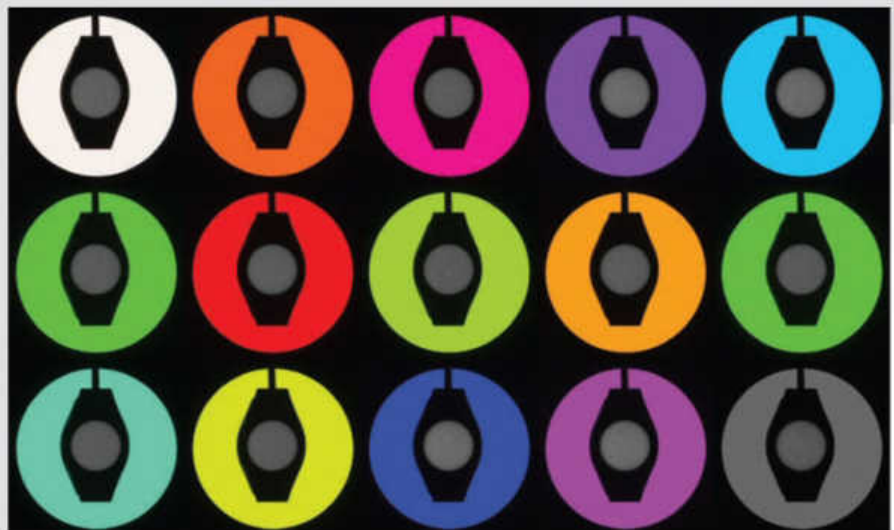


Figure 2: As you calibrate your monitor, your monitor will display an array of different colors at different brightness values that are analyzed through the colorimeter and accompanying software.

Figure 3. You'll need to make a neutral target print by turning off all color management in your printer driver, and then you'll need to scan all of the individual colors on the target. And, yes, you'll need to do this for every paper you use. It's time-consuming to do this, which is why I suggested earlier that you don't need to. If you want to, and like "geeking out" on such things, scan your tar-

great way to go. It's not free, like using the manufacturers' profiles, but they're customized to your specific printer and thus usually will provide you with a more accurate profile to work with. CHROMiX, Digital Technology Group and IT Supplies are a few companies that offer services for creating custom profiles. The good news is that they're not that expensive, starting at around \$30.

For Windows Vista or later, go to Control Panel > Color Management > All Profiles > Add

For Windows 2000, the correct location is C: > WINNT > System32 > spool > drivers > color

Now that we have some foundation in the theory and practice for creating consistency with digital printing, the next step is to start doing it. So, I humbly ask that



Figure 3: A spectrophotometer can be used to scan a target print to create a profile for a specific printer, ink and paper combination.

get prints to your heart's content, but in the spirit of keeping your life easier, let me suggest a couple of alternatives.

The easiest, most affordable solution is simply to use the printer profiles supplied by your paper's manufacturer—they're free. I don't know of any paper manufacturers today that don't make and offer ICC profiles for the media they sell. They offer profiles for all popular photo printer models from Canon and Epson, and most from HP. Simply go to the manufacturer's website and look for "ICC profiles," or Google the name of the paper you're using followed by ICC profiles (e.g., Canson Infinity Rag ICC profiles).

You also can use a service to create a custom profile for you. I think this a

As you print files through Photoshop, Lightroom or another program, your image will need to be converted to the printing profile before you hit "Print". In the next article in this series, I'll go into more step-by-step explanations of the print process, but before that, Lightroom, Photoshop or another program needs to be able to find the profile that we've downloaded or has been given to us. It's simply a matter of placing the profile in the correct folder. Below is a set of directions, or paths, where you should place your ICC profiles, depending on what computer platform or operating system you're using.

For Mac OS X, place profiles in Library > ColorSync > Profiles, from your home directory

you stay tuned to the next issue to learn more. Believe it or not, there's a bit more to know in addition to putting the right profile in the right folder. I'll provide a step-by-step workflow illustrating a print workflow through Lightroom. Until then, begin by calibrating your devices, and get them ready to jump into good color management practices. **OP**

Jason Bradley is a nature and underwater photographer from Monterey, California. He owns and operates Bradley Photographic Print Services and Bradley Photographic Workshops, and is the author of "Creative Workflow in Lightroom" from Focal Press. To see more of Bradley's work, visit BradleyPhotographic.com.



Yosemite Lightning Strike

Yosemite National Park, California



storms as a child in the Sierra Nevada, I set a goal to capture a lightning bolt in the national park.

In July, I finally got my chance after watching the weather report and seeing that powerful thunderstorms were expected in the park. I left my hometown of Bishop, California, in the Eastern Sierra Nevada, and headed straight to Yosemite Valley. As I drove over Tioga Pass and into Tuolumne Meadows, I could see the thunderheads beginning to grow exponentially and get very dark. By the time I reached the valley floor, lightning had begun to strike down sporadically around Half Dome, and I feared I had missed my chance. Pockets of blue sky began to appear overhead, and I thought I could at least capture a nice sunset as a consolation prize. I decided to drive up to Glacier Point high above the valley.

Little did I know what I had seen in the valley was only the beginning. By the time I reached Glacier Point, the sky had turned black and a small crowd was watching strike after strike hit behind Half Dome and over Nevada and Vernal Falls. I set up my tripod and camera and began shooting, praying I'd capture one of the bolts. Within minutes, it became apparent that everyone's hair was standing on end. A park ranger approached and rightfully forced us to evacuate the area due to safety concerns. Once again, I felt like my goal was unattainable.

I sat in my car, uttering words that can't be repeated here, downtrodden and defeated. "Maybe I can find a safer spot up the road," I thought to myself. I left the parking lot and found a safer area to shoot and, again, set up my camera and tripod.

For the next two hours, I took exposure after exposure and consistently missed the lightning. Time and time again, the strikes would flash just before the shutter opened or after it closed. Feeling disheartened as the frequency of strikes began to slow, the sun began to set and the relentless rain battered my camera, I sat back to take a much needed break. Before I knew it, the next surge of lightning began to crack and Half Dome was glowing! The famous monolith turned into a beacon of light in an otherwise dark and dreary domain. I couldn't even begin to process the spectacle in front of me as a rainbow began to form. This time, I began shouting those words that can't be repeated here as loud as I could.

I felt like a wild man, as the adrenaline pumped through my veins, and I pushed the shutter release button on my remote feverishly. A pattern of familiarity emerged and, again, I missed bolt after bolt until... it happened! I heard the shutter open and, immediately after, a bright flash pierced the sky and thunder roared. My heart literally stopped. I couldn't breathe. "Did I get it? Did I get it? Come on! Please!"

The photograph appeared on the back of the LCD, and there it was—not only a lightning strike in Yosemite National Park, but Half Dome with an intense glow, Nevada and Vernal Falls, and a rainbow! Out of the hundreds of photographs and the multitude of missed lightning strikes, one, just one, had the lightning bolt. At that moment, I knew my passion for photography and my fervor for the natural world had evolved into something much more than a hobby. The thrill of that capture stays with me even today and has been a continuing source of inspiration in my photographic career.

OP

See more of Nolan Nitschke's work at thesierralight.com and on Facebook at facebook.com/nolanphoto.

In 2006, at the inception of my career in landscape photography, I set out with a specific photographic goal that, at the time, seemed nearly impossible. The year before, while lugging my camera gear and trying to follow in the footsteps of legendary photographers Galen Rowell and Ansel Adams, a thought crossed my mind. I had never seen a photograph of a lightning bolt in Yosemite National Park. Knowing that the polished granite monoliths acted as lightning rods during thunderstorms and remembering the intense lightning



When size matters for huge prints or creative cropping flexibility, these cameras deliver massive image files

ULTRA HIGH RES

Ansel knew that if you wanted to capture an incredibly detailed image of a subject, you needed incredibly high-resolution equipment. In his time, large-format film photography provided the ultimate in image resolution, thanks to both the massive size of the photographic negative and the resolving power of the lenses. These combined to create a resolution of unmatched fidelity, even by today's standards.

Digital photography has its own advantages, however, and photographers now can capture incredibly detailed images without having to carry around suitcases full of wooden-framed cameras and glass plates. Ultra-high-resolution sensors, boasting previously unobtainable pixel density, are now commonplace, and cameras with nearly unimaginably high-megapixel sensors are just around the corner.

Resolving Power

Due to some limitations of physics, increasing the number of pixels on a sensor without improving any other light-gathering technology on the sensor or in the camera results in a more detailed, but lower-quality image. Sure, you'll get more information about a subject with a higher megapixel count, but that information is likely to be clouded by noise and color artifacts, especially when used in low light.

Each pixel on a sensor represents a snippet of data that can be sampled from a scene. The bigger the pixel, the more light

BY DAVID SCHLOSS

Canon EOS 5DS & EOS 5DS R

The Canon EOS 5DS and EOS 5DS R are fraternal twins, sharing the same body, 50.6-megapixel sensor, 61-point autofocus system and an ISO range of 100-6400. Externally, they're identical, and internally, they're virtually identical, with the difference being that the Canon EOS 5DS R cancels out the camera's anti-aliasing filter—the optical element that reduces the chance of closely spaced parallel lines seeming to blur together (or moiré), but also reduces sharpness—to create an image that's slightly sharper than the 5DS, but has greater risk of suffering from moiré. List Price: \$3,399 (5DS); \$3,599 (5DS R). usa.canon.com



Mamiya 645DF+

Mamiya and Leaf joined forces, and the Mamiya 645DF+ is designed to work with the Leaf Credo 80, 60 or 40 backs, giving you 80, 60 or 40 megapixels of resolution, respectively. The body features newly designed autofocus and metering systems, as well as 35mm styling. The new battery pack gets 10,000 shots on a single charge, and the body works with Mamiya lenses, in addition to numerous others via adapters. Estimated Street Price: \$5,999 (body only). mamiyaleaf.com



Hasselblad H5X

The Hasselblad H5X is the company's newest body, a system designed to provide SLR-like functionality with autofocus and an integrated leaf shutter, and that connects to the company's digital back. It's the modern replacement to the H5D cameras, and is compatible with all the H5D backs, plus Phase One backs and certain Leaf backs. Estimated Street Price: \$6,200 (body only). hasselblad.com

it can collect. The smaller the pixel, the less light it can collect. Put more pixels on a sensor, and you can get more samples of the subject, but less information from each sample.

For the time being, the go-to resolution for everyday “professional” cameras hovers between 12 and 20 megapixels, which is sufficient for most photojournalistic, commercial and fine-art uses, as it nicely balances the trade-offs between resolution, dynamic range and accuracy of reproduction.

But sometimes that resolution isn't enough, and that's when ultra-high-resolution cameras come into play. These systems, which we'll define as any camera with a sensor above 30 megapixels, provide an image that has plenty of headroom for needs ranging from post-shoot cropping to large-format output.

Bigger is Sorta Better

Nature and wildlife photographers, in particular, often can benefit from ultra-high-resolution images because it gives them the ability to crop images after capture to achieve ideal compositions without treading on protected land or encroaching on wildlife, and still have plenty of information left to output the image at large sizes. Just as using a tele-converter allows you to get reach with your lens that's otherwise impossible, the large resolution of some cameras allows photographers to get to a subject without having to extend their gear.

Every time a high-resolution camera is released, we hear cries of, “Who needs that many pixels?” and then within a few years, that “overkill” resolution becomes the new standard. The fact is, higher resolution—as long as it comes without

sacrificing other aspects of picture quality—is a benefit to photographers.

Now there's a range of supersized sensors that have some incredible benefits, but that also come with some disadvantages that should be considered.

On the Downside

Increased pixel density comes with an associated trade-off. A good, and familiar, analogy is to think of pixels as buckets that capture “drops” of rain. (Please don't send emails about this; it's a crude and not entirely correct analogy, but it makes a point.) The



Nikon D810 & D810A

The Nikon D810 has a 36-megapixel sensor, an ISO range of 64–12,800 and an electronic front curtain option, which reduces camera shake—especially helpful for long exposures. The Nikon D810A is based on the D810, and is directed at the small, but passionate astrophotography market. This unique camera has a modified infrared filter, which allows more sensitivity in the wavelengths that are typical of what come off of stars and nebulae. Since this camera is aimed at the long-exposure crowd, it has a shutter speed range from 4 to 900 seconds. List Price: \$2,799 (D810); \$3,199 (D810A). nikonusa.com

number of buckets is the resolution. Place one bucket outside that's the size of your whole yard, and you're only going to get one measurement for rain across your yard. You're sampling rain at one bucket.

Put out two buckets and you know how much it rained in two different places, so your resolution has increased to two buckets (you know what rain patterns look like in two places), but now there's some space between the buckets for you to run between them (that's the wiring on the sensor). So you're not gathering all the rain—some runs off between the buckets.

The buckets are smaller now, so each holds less rain. That means it takes less water to fill them up, so there's less of a range of volume between empty and full. In digital imaging, this translates to the fact that more pixels on a sensor means less dynamic range.

It also takes more work to count the rainfall in two buckets than in one, so you have a lot more work to do before you can empty the buckets and start counting rain again.

At some point, as buckets become plentiful, the counting becomes incredibly hard. The buckets of rain begin to spill water between them. The pathways

that separate them to enable reading the buckets block some of the rain. It's a mess. Adding more buckets might give you a better picture of how many drops of rain are falling, but it also adds a sloppiness to the process that results in a loss of the very accuracy you're trying to add.

As a result of this, with super-high-resolution sensors, we should see terrible image quality in several common shooting conditions, including low light, scenes where moiré is common and high-contrast areas. But we don't see that, or certainly not as much, with today's ultra-high-resolution cameras as we did with those of just a few years ago.

Overcompensation

So how is it that we can have cameras with 30, 40 or 50 megapixels and have images that not only are good, but are even better than the systems that came before them and which they replace?

The Nikon D810 is a perfect camera to look at to explain the process. The body has a 36-megapixel sensor and a claimed usable ISO from 64–12,800. It replaces the Nikon D800, which had the same-sized sensor and a claimed ISO of 100–6400. That's a full *f*-stop improvement in one generation in their claimed numbers, but in real-world testing, the

D810 is more than one stop better than the D800—it's at least two or even three stops more usable in low light.

So what happened? The same pixel count, but better images.

Even though we often think of a RAW file as being data straight off of a sensor, that's not quite true. It's data from a sensor that has been fed through the camera's internal processing. This processing removes a lot of the errant signals caused at a pixel layer from all the electronics on a busy image sensor bumping up against each other. There's an incredible amount of math going on inside a camera—math to turn the analog signals on an imaging sensor into numbers, math to turn those numbers into other numbers that represent RGB values, and math to figure out how to make some numbers that should result in an image with “noise” instead produce a clean image with smooth tones.

That means that camera companies can significantly increase the resolution of sensors without a corollary decrease in image quality by increasing the sophistication of how they massage the data coming off of the sensors. Long-time Photoshop users who gasped at the miracle of the program's addition of Content Aware tools are familiar with the power of software applied to image enhancement and how it can revolutionize a cumbersome process.

Catch You on the Backside

Another recent technological improvement has just landed in the full-frame-sensor space, and it's likely to have implications for years to come. Sony's new a7R II took that wiring on the front of the sensor—the connectors between the buckets that block some of the space—and moved them to the back of the sensor. Called Backside Illumination (which has been used in security cameras for years), in the a7R II, Sony moved it into the higher-end professional photography market.

The result is a 42-megapixel sensor with an ISO range of 100-25,600, which I routinely shoot indoors at ISO 6400, with as little noise as the Nikon D810 at ISO 1600.

BSI technology will move through the industry and will usher in a whole new era of ultra-high-resolution cameras with better image characteristics than previously thought possible. It will allow for ISO 3200 shooting tomorrow that looks like ISO 200 today.

Medium Format is Dead, Long Live Medium Format

Industry pundits have proclaimed the death of medium format since the first digital camera rolled off the assembly line. For film photographers, medium format provided a larger film size and, therefore, a higher-resolution image without the bulk and complexity of a large-format camera setup. Adaptable to studios and location shoots alike, medium-format cameras were the choice when large-format prints needed to be made or when the utmost detail was needed for catalogs or fashion shoots.

The death of film-processing labs caught up with medium format, and as film started to vanish, the companies that made the bodies started to bleed money, get acquired and get acquired again. It didn't help that the digital solutions for medium-format cameras were clunky, slow and incredibly expensive. I once did a review of a medium-format back that cost quite a bit more than the BMW I was photographing to test it.

The format isn't without its merits, however. The sensor is larger (120mm diagonal versus "full-frame's" 35mm diagonal), yielding a surface area that's up to four times the size of 35mm. That gives a lot of additional space for more and bigger buckets.

The slow transfer speed that was an issue for data coming off a medium-format back when tethered to a computer a decade ago now seems trivial, thanks to faster interface standards like Thunderbolt and faster computers to process those files. The only barriers to entry are the high prices of cameras, lenses and accessories relative to 35mm equipment and the availability of that gear.

The Pentax 645Z, about the least expensive medium-format system you can get, is around \$7,000, but 200-megapixel Hasselblad systems break the \$40,000 mark, without lenses.

A Bigger Day is Coming

Last September, Canon announced development of a 120-megapixel still imaging camera that will yield, according to the company, incredibly high detail with compatible EF lenses. They haven't announced specific products or dates, but this demonstrates that the big players aren't looking to make incremental steps here, but exponential ones.

Canon also announced a more theoretical product, the development of a 250-megapixel imaging sensor that likely will be used in surveillance and scientific fields, at first, but like BSI sensors, could be used at some point to increase resolution dramatically in the still and video imaging spaces, as well.

Size Almost Does Matter

The problem with the resolution debate is that photographers often

don't know if they need an ultra-high-resolution image until they have captured it. Is today's wildlife shot going to turn into the once-in-a-lifetime image that sells catalogs and launches galleries? If so, it would be great to have a camera with a sensor big enough to make a billboard-sized print.

If you're never displaying a photograph larger than your monitor, then having a massive sensor will provide you little benefit, other than the ability to crop to your liking, but if you're looking for the flexibility of after-capture image adjustment and a broad range of possible output scenarios from print to poster, ultra-high-resolution-sensor cameras may be for you. **OP**

You can follow **David Schloss** on Twitter and Instagram @davidjschloss.

Pentax 645Z

The Pentax 645Z is one of the more affordable medium-format solutions, with a body designed to look and feel more like an SLR camera. It houses a 51-megapixel sensor with an ISO range of 100-204,800. List Price: \$6,999. us. ricoh-imaging.com



Sony a7R II

The Sony a7R II is a 42-megapixel mirrorless camera that uses a new Sony-designed Backside Illuminated (BSI) sensor that boosts sensitivity in low light. The camera has an ISO range of 100-25,600 and captures 4K video at up to 30p at some of the highest quality available in a full-frame-sensor camera. List Price: \$3,199. store.sony.com

TEXT & PHOTOGRAPHY BY MARK EDWARD HARRIS

REBUILDING NEPAL

A journey of recovery following the devastating 2015 earthquake

At 11:56 a.m., on April 25, 2015, a magnitude 7.8 earthquake struck Nepal, killing more than 9,000, injuring an estimated 23,000 and displacing more than 450,000 people. It was the worst natural disaster to strike the landlocked nation of 27 million since the 1934 Nepal-Bihar earthquake. Six months later, I traveled to Nepal to document its recovery efforts, focusing on the Kathmandu Valley and the Himalayas.

As I'm based in Los Angeles, the Himalaya section of the assignment

meant digging deep into the closet for my cold weather kit. I emerged decked head to foot in The North Face gear, including thin, touchscreen-sensitive gloves.

Upon arrival at Tribhuvan International Airport, my bags and I were hustled through Customs by a Dharma Adventures representative—it's always a great idea to have a local "fixer" on the ground—then transferred to Dwarika's Hotel, my base for the Kathmandu Valley segment of my assignment.

According to UNESCO, more than

30 monuments in the Kathmandu Valley collapsed and 120 incurred significant damage in the initial quake and its aftershocks. This is in addition to the thousands of destroyed monasteries, shrines, office buildings, apartment complexes and private homes that didn't escape the wrath of one of nature's most terrifying phenomena.

Drones have been used to fly over Nepal's cultural heritage sites, providing images of the damage to assist in the reconstruction efforts, which are now in



A helicopter view of the Himalayas including Mount Everest.

full swing. In addition to focusing my cameras and efforts on documenting the physical damage in places such as Swayambhunath, the Durbar squares in Kathmandu, Bhaktapur and Patan, and the Hindu temples of Pashupati and Changu Narayan, I did a number of portraits—both environmental and “the eyes are the window to the soul” style—of people I encountered along the way.

Continuing with the idea of putting a human face on post-earthquake Nepal, I documented Camp Hope, set up by

the family-run Dwarika's Group of hotels and resorts as part of their contribution to the recovery efforts in their country. Camp Hope is a tented village in the heart of the capital for more than 300 refugees from Sindhupalchowk, a region that lost almost 90% of its homes. Ambica Shrestha, whose late husband Dwarika founded the first hotel in the chain, explained that they're currently doing feasibility studies in and around Sindhupalchowk in order to construct new homes for the refugees after the monsoon season.

To begin the second part of my assignment—exploring sections of the Everest trek—I flew from Kathmandu into the Tenzing-Hillary Airport at Lukla (9,318 feet) with a small group of fellow journalists. The airport is considered one of the most technically challenging in the world for pilots, due to its short runway at a severe incline that ends with a cliff. I used my GoPro HERO4 mounted on a GoPro 3-Way arm to document

the dramatic approach and landing.

I assembled my trekking poles, which fold into three sections for ease of transportation, and headed to the town of Monjo (9,301 feet), our group's home for the night. On the way, we passed Buddhist chortens, mani stones, prayer wheels, and a surprising number of tea houses and well-stocked stores.

Day two on the trail brought us into Sagarmatha National Park, established in 1976 to protect the area surrounding Mount Everest. We crossed the route's highest swinging bridge over the Dudh Kosi River, then made a steady climb up to Namche Bazaar (11,286 feet), the Khumbu's largest town. Typically, trekkers to Everest Base Camp and those attempting ascents there or on other mountains will take an extra day for acclimatization in this central hub. They then trek another two days to Dingboche (13,980 feet) for another day of acclimatization, then two more days on the trail to Everest Base Camp (17,598 feet).



The cremation ghats of Pashupatinath Temple on the banks of the Bagmati River were in constant use in the days following the massive earthquake in a country that's more than 80 percent Hindu.



Children pass a Buddhist stupa on the trail between Namche Bazaar and Khumjung in the Himalayas.

Instead, we left the following morning to inspect the heavily damaged village of Khumjung (12,401 feet), on the way encountering spectacular views of Thamserku, Kangtega, Tawoche, Lhotse, Everest and 22,349-foot Ama Dablam, crowned with one of the most beautiful peaks on earth. In the late afternoon under a light snowfall, we descended to the Everest Summit Lodge of Tashinga (11,300 feet). The original 20-room lodge was destroyed by the earthquake, but already has been rebuilt with 10 rooms.

The next morning, we trudged our way through a heavy snowfall up to the famous monastery at Tengboche. Everest climbers stop here to light candles and seek blessings for safe mountaineering. It doesn't always work, unfortunately.

Just before leaving home, I had watched Hollywood's latest account of the events that took place on Everest in May 1996, which resulted in the deaths of eight climbers. The April

25 earthquake eclipsed that number by triggering an avalanche on Pumori that swept through the South Base Camp, killing 19, making that day the deadliest in Everest's history. Just over a year

**“Sherpa lives
have really been
affected, because
most are involved
in tourism directly
or indirectly.”**

earlier, on April 18, 2014, an avalanche near base camp killed 16 Nepali guides.

My group's Himalayan guide, Maya Sherpa, is the only Nepali woman alive today who has summited Everest

from both the south (Nepali side) and the north (Tibetan side). Pemba Doma Sherpa, with whom she shared that distinction, died in 2007.

“I met her on Cho Oyu in 2004,” explains Maya over a cup of steaming *masala chiya*, a spicy, milky black tea. “She was a good lady. When I was on the north side of Everest, she was on Lhotse when she fell to her death after making it to the summit.”

Maya also has summited K2, the second-highest mountain in the world, but it's considered much more dangerous than Everest, with roughly one person dying for every four who make it to the summit.

Maya happened to be in Kathmandu at the time of the earthquake, while her husband, fellow climber and guide Arnold Coster, was on Everest. “I knew that day many friends were going to climb the icefall there,” she recalls. “That's the worst place to be in an earthquake. They were very lucky nothing



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A woman carries a load of leaves in a doko (an oversized basket) in the Himalayan village of Pangboche.

Mark Edward Harris' Nepal Gear

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Nikon SB-910 AF Speedlight

Gary Fong Lightsphere

GoPro HERO4 Black

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Black Diamond Distance FLZ trekking poles

happened in the icefall, but the people at Everest Base Camp weren't so lucky. They were hit by an avalanche. Many people died. My husband, who's from the Netherlands, was there leading an expedition. He and the people he was with were fine. Others were not."

In the months following the earthquake, Maya and her husband gathered \$30,000 from their friends and sponsors around the world to support earthquake victims, but the crisis continues.

"Sherpa lives have really been affected, because most are involved in tourism directly or indirectly," Maya explains. "You have seen in the Khumbu area that there's 60 percent less tourists. That means lots of Sherpas have no jobs this year. Many trekking trail hotels are empty. They have spent lots of money to rebuild the hotels, but have no business. Some trekking trails were damaged by the earthquake, like the ones in the Manaslu and Langtang areas, which will take a few years to rebuild, but there are so many other places in Nepal around Everest, Annapurna, Makalu and Kangchenjunga where people are still afraid to come because of all the bad news they have heard. A lot of the negative news isn't true. Trekking in the Himalayas as you're experiencing is very safe, and we Nepalis are waiting to welcome visitors."

After spending a final night in the Himalayas at the Everest Summit Lodge at Pangboche (13,074 feet), I boarded a helicopter to get an overview of the Everest region before flying back to Kathmandu. Since there was no room to be pulling equipment in and out of my camera bag during the flight, I slung a camera body with a 14-24mm f/2.8 over one shoulder and a second camera body with a 24-70mm f/2.8 over the other. In this type of shooting situation, I switch from my usual aperture-priority mode to shutter-priority, with 1/2000 as my go-to shutter speed, since the vibration of the helicopter can cause camera shake.

Back at the airport in Kathmandu, I bade *namaste* to my guides from Dharma Adventures, knowing that while Nepal still has many earthquake-related issues to deal with, the country is well on the way to recovery. OP

See more of **Mark Edward Harris'** work at markedwardharris.com and on Instagram @MarkEdwardHarrisPhoto.

photo adventure

(Cont'd from page 29)

desert plant species. As the steep creek dropped from the higher elevations of the Mogollon Rim country at 7,000 feet to the warmer lower regions of the Verde Valley at 3,000 feet, we encountered new plants. On the fifth day, as we neared the end of the trip, Rich Crawford, one of the botanists, pointed to the first sighting of a *Platanus wrightii*, the Arizona sycamore.

What really impressed me about the canyon, and became my primary focus photographically, was the plant community in the disturbed areas of the canyon (or what one of the botanists called the "zone of destruction"). This region lay in the really narrow sections of the canyon under the high-water mark. Periodically, flash floods, intensified in the canyon narrows, would rip this zone practically bare of anything living, hence the nickname. Paradoxically, the zone of destruction I walked through was distinguished by quiet pools of water surrounded by verdant reeds, grasses and an almost total lack of any tree bigger in diameter than a pencil. In the zone of destruction, trees can't survive the frequent forces of millions of gallons of flood-borne water, rocks and sand crashing through the corridor. The tree size dates to the last apocalyptic event.

In the photo here, Wendy pauses mid-creek in the zone of destruction. On her back are four days of plant collections that she needed to keep dry. She was focused on the plants around her even as she was negotiating slippery rocks and a route through a deepening pool. I climbed a cliff to get a better vantage of the landscape around Wendy.

I shot this image with my Sony RX100 camera on aperture priority and underexposed by 0.7 stops to keep the dark green foliage and pool from overexposing the image. At ISO 400, I had to carefully steady the little camera for a 1/60 second, *f*/5.6 exposure and set my zoom lens to its widest 28mm focal length. To protect the camera, I kept it in a watertight Pelican case. Even when swimming, the camera was easy to reach and keep close at hand, clipped to the pocket of my Osprey pack.

OP

To see more of **Bill Hatcher's** photography, visit billhatcher.com.



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tech tips

(Cont'd from page 26)

plants. Keep in mind that all the flowering plants you trample won't finish their goal of blooming and setting seeds to offer up new flowers in successive years. That's why I've been so angry when I've returned, several times, to high basins of the Colorado Rockies where in the past I had photographed fields of columbine, larkspur and paintbrush, only to discover a flock of sheep decimating the meadows, leaving nothing but excrement in their wake, destroying sustenance for the small mammals, birds and insects that once lived there as part of a balanced ecosystem, and eliminating all possibility of future blooms.

Finally, a note about enhancing the scene. Many years ago, it was rumored that a certain landscape photographer carried with him gardening tools to relocate flowers, placing them in strategic positions for improved color and composition. Staging a natural area by moving plants seems wrong on two counts: first, it tampers, even if mildly, with the environment; and second, it misrepresents the scene. In the Photoshop era, this manipulation

occurs post-capture, which results, in my opinion, in a photo-illustration rather than an accurate depiction of nature.

Artificial Backgrounds or Light Modifiers

With projects that involve isolating a particular species of flower, I take along my own white or black background. The objective is to keep the image natural looking, but to eliminate all distracting elements. It's important to keep the background out of focus in order to obscure its texture or any wrinkles or flaws and render consistent lighting. This is a special way of capturing flowers, and I don't use it often because I prefer natural subjects in their environments; it's more of a textbook approach.


Small light modifiers, such as fold-up reflectors and diffusers, can be useful for opening up shadows or softening harsh midday light. Using the diffuser in the Alaskan tundra on a bright day, for example, simulated overcast-like lighting that revealed the natural colors of the foliage. Reflectors are available in both white and gold colors; the gold will add warmth to the image.

Some kits have both a white and a gold side. Because they fold easily, you can carry both a reflector and a diffuser in a pocket of your camera backpack.

Take Your Time

The key to excellent composition is to work deliberately, to view possible subjects in their environments as finished compositions and to improve the capture before committing the pixels. In the case of fields of wildflowers, using a low tripod is highly recommended, as it allows you to fine-tune your composition and enables you to implement stacking techniques. When working at low angles, remote viewing can be very helpful: Some cameras have WiFi that transmits the image to your smartphone, and I've been known to hook up a CamRanger to the camera so I can comfortably view and fine-tune an image on my iPad's large screen. That's a great tool, by the way, for teaching a field workshop on flower photography. **OP**

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“There are two kinds of people in the world—those who have had a hard drive failure, and those who will.”

—Peter Krogh

The 3-2-1 Backup Rule

Strategies and solutions for preserving your photo archive

BY THE EDITORS

It's a reality that all photographers face: No single storage solution is immune to data loss. The only way to ensure your photo archive is safe is to have multiple copies, in multiple locations.

The 3-2-1 Rule

In his book, *The DAM Book: Digital Asset Management for Photographers* (thedambook.com), Peter Krogh introduces the 3-2-1 Rule for backing up your image files. The idea is to keep at least three copies of any important file on two different types of storage media, with one copy in an offsite location. If your primary storage device is your computer hard drive, you can follow the 3-2-1 Rule by keeping a copy of your image library on an external drive, with an additional copy “in the cloud,” but there are other ways you can follow the rule, depending on your preferences and workflow.

Keep Your Originals. With the cost of memory cards more affordable than ever (a 32 GB pro-quality SDHC card retails for about \$25), one option is to leave your original image captures on the memory card. When it's full, label it with a date range and store it securely—bonus points for investing in a fireproof safe. Memory cards are also a highly portable option for offsite backups.

Make A RAID. One of the most common backup solutions is a pair of external drives configured in RAID 1, meaning that the two drives are mirrored. Whether you copy image files manually or use backup software to manage the process, an external RAID 1 offers the peace of mind that if one of the drives fails, the remaining drive has a duplicate of every file.

To The Cloud! Services like Dropbox and Google Drive offer 1 TB of storage for around



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The innovative, hot-swappable G-DOCK ev can be configured as a RAID 1, or you can use each drive independently. The latter is advantageous for managing your offsite backups—copy your image library to one of the drives, eject and go. The Thunderbolt dock is compatible with G-DRIVE ev, G-DRIVE ev 220 and G-DRIVE ev SSD drives, each of which can be used when away from the dock via USB 3.0. List Price: \$499 (2 TB). g-technology.com



Transcend StoreJet 500 Portable SSD

Available in capacities of 256 GB, 512 GB and 1 TB, the solid-state StoreJet 500 Portable SSD offers both Thunderbolt and USB 3.0 interfaces for fast image transfers. The pocket-friendly drive comes preformatted for Mac OS, but can be reformatted for Windows. Estimated Street Price: From \$189 (256 GB). transcend-info.com

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If you don't already have a website to showcase your images, consider a service like **PhotoShelter** (photoshelter.com), which not only makes it easy to create and manage a polished portfolio online, but also includes cloud storage with support for most common image file types. The Standard Plan is \$25 per month, and includes 100 GB of cloud storage, customizable website templates (no coding required) and even the ability to sell prints or image licenses with built-in e-commerce.



PHOTOSHELTER



Pelican 0915 Memory Card Case

Made of polycarbonate resin, the Pelican 0915 Memory Card Case offers splashproof protection (IPx4 rating) for up to 12 SD cards, plus 6 miniSD and 6 microSD cards, with a clever stacking design. Estimated Street Price: \$18. pelican.com

Lexar Professional 1000x SDHC UHS-II

With memory card prices more affordable than ever, consider keeping your original captures on the card and replacing it when full. A high-quality 32 GB card like the Lexar Professional 1000x SDHC retails for around \$25. lexar.com



\$10 per month. That's plenty of room for most image libraries, and also satisfies the 3-2-1 Rule's requirement for at least one off-site copy. Getting your data to the cloud may be the bottleneck initially—you're going to need a high-speed Internet connection, and it may take several hours for the first sync of large libraries. Utilities like Arq (arqbackup.com) can make setting up and managing your cloud storage a lot easier.

Portable Drives. An alternative to cloud storage for your offsite backups is to use portable external drives and keep them in your desk at work or at a friend's house. The downside of this method is that you'll need to physically update your remote copies whenever you add new images to your catalog. One way to handle this might be to use a USB flash drive to ferry your latest images to your offsite backup.

Optical Disks. Though Apple has been phasing out the optical disk for a few years now, they continue to sell a USB Super Drive that can record to DVDs, and most Windows computers still include DVD-burning drives. This solution is somewhat limited, with a capacity of just 4.7 GB per disk, but it's an inexpensive option. Keep in mind that the fate of optical disks is questionable, however, and one of the chief concerns when choosing a backup medium is the future availability of hardware and interfaces that allow you to read it. In other words, you may find yourself transferring your optical disk backups to another medium in the not too distant future. **OP**

Technology-Independent Preservation & The Professional Print

In a recent conversation with Drew Hendrix of Red River Paper, he referred us to a white paper by Joseph E. LaBarca entitled, "Preservation of Photographic Images for Future Generations: New Opportunities for Prints and Photo Books." In it, LaBarca observes that **the persistent advance of technology makes file format and media obsolescence a perpetual issue for those of us trying to preserve digital photo archives.** He points out that there are several hurdles: the media format itself (think floppy disks, if you're old enough to know what those are); the availability of devices to read the media format; the ability to connect such a device to a modern computer (the interface, e.g., remember serial ports and SCSI?); the file format, potentially an especial concern with proprietary RAW formats; and—perhaps the most unsettling—data integrity, meaning the media hasn't physically degraded, and the data is still there, uncorrupted and readable.

LaBarca's paper is an interesting read for tech enthusiasts, and is easily found online, but it also drives home an important point for all photographers: In the digital age, a professional-quality, archival print not only is a beautiful, tactile experience, it's also a way to preserve your best images that doesn't rely on storage technology. Decades from now, no matter what storage media prevail or file formats come and go, a well-crafted print still will be ready to enjoy.



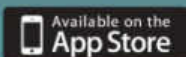
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Soaking In The Scenery

On the last day of a 21-day photo expedition to Antarctica, photographer Chuck Murphy had a chance to do some exploring on his own on Cuverville Island, just off the Antarctic Peninsula, and came across a lone gentoo penguin. “The light was good – fairly bright, but slightly overcast – so there wasn’t too much contrast,” Murphy recalls. “Since the little guy was alone on the rock and the coast of Antarctica was quite a way off, I had a good feeling there was a chance for a shot with an uncluttered background. I got off about a half-dozen shots of him hopping around on the rock, and then just for a second, he turned around, presented me with this semi-profile view and raised his wings as if to say, ‘Is this an incredible view, or what?!’” To see more of Chuck Murphy’s work, visit boywithcamera.com.



Chuck Murphy

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MYTH:
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don't have enough lenses.

Image shot with the Olympus OM-D E-M1 and an M.Zuiko ED 8mm f1.8 Fisheye PRO Lens
by Olympus Visionary John Sterling Ruth.



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